

# REPLACEMENT RESERVE REPORT FY 2016 WILLOW SPRINGS TOWNHOMES



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WILLOW SPRINGS TOWNHOMES

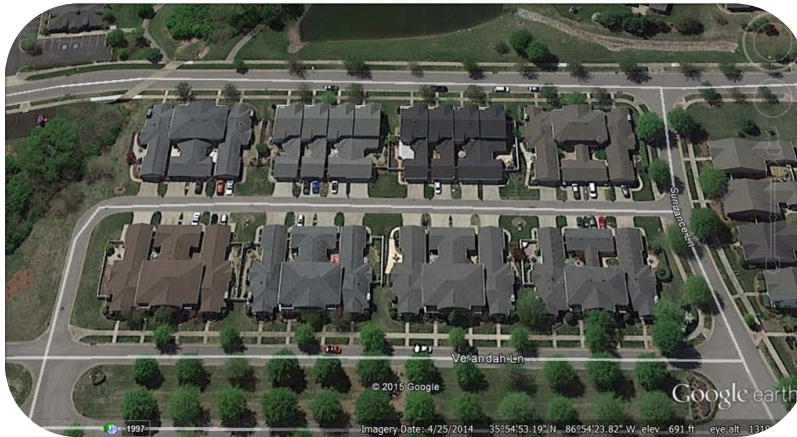
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# REPLACEMENT RESERVE REPORT

## WILLOW SPRINGS TOWNHOMES

FRANKLIN, TENNESSEE  
Revised June 10, 2015



**Description.** Willow Springs Townhomes is a community located in Franklin, Tennessee. Constructed between 2001 and 2005, the community consists of eight buildings containing 32 units. The survey examined the common elements of the property, including:

- Concrete leadwalks, driveways, steps, stoops, and patios.
- Fences and railings
- Doors, shutters, and windows,
- Building exteriors.

**Level of Service.** This study has been performed as a Level 1 Full Service Reserve Study as defined under the National Reserve Study Standards that have been adopted by the Community Associations Institute. As such, a complete inventory of components was established for the commonly owned elements of this facility based on information provided by the Community Manager or by quantities that were developed from field measurement or takeoffs from to-scale drawings as performed by the Analyst. The condition of each inventory component was established by the Analyst, based on a visual inspection or review of provided historical data with a major repair or replacement cost for each also set. The included fund status and funding plan have been derived from analysis of this inventory.

### Section A

#### Replacement Reserve Analysis

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To aid in the understanding of this report and its concepts and practices, on our web site, we have developed [videos](#) addressing frequently asked topics. In addition, there are posted [links](#) covering a variety of subjects under the resources page of our web site at [mdareserves.com](http://mdareserves.com).

**Purpose.** The purpose of this Replacement Reserve Study is to provide Willow Springs Townhomes (hereinafter called the Association) with an inventory of the common community facilities and infrastructure components that require periodic replacement. The Study includes a general view of the condition of these items and an effective financial plan to fund projected periodic replacements.

- **Inventory of Items Owned by the Association.** Section B lists the Projected Replacements of the commonly owned items that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about excluded items, which are items whose replacements are not scheduled for funding from Replacement Reserves.
- **Condition of Items Owned by the Association.** Section B includes our estimates of the normal economic life and the remaining economic life for the projected replacements. Section C provides a year-by-year listing of the projected replacements. Section D provides additional detail for items that are unique or deserving of attention because of their condition or the manner in which they have been treated in this study.
- **Financial Plan.** The Association has a fiduciary responsibility to protect the appearance, value, and safety of the property and it is therefore essential the Association have a financial plan that provides funding for the projected replacements. In conformance with American Institute of Certified Public Accountant guidelines, Section A, Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by the Cash Flow Method. Section A, Replacement Reserve Analysis includes graphic and tabular presentations of the Association's current funding and the recommended funding based on the Cash Flow Method. An Executive Summary of these calculations is provided on Page A1. The alternative Component Method of funding is provided in the Appendix.

**Basis.** The data contained in this Replacement Reserve Study is based upon the following:

- The Request for Proposal submitted and executed by the Association.
- Miller - Dodson performed a visual evaluation on April 3, 2015 to determine a remaining useful life and replacement cost for the commonly owned elements of this facility.
- This study contains additional recommendations to address inflation for the Cash Flow Method only. For this recommendation, Miller - Dodson uses the Producers Price Index (PPI), which gauges inflation in manufacturing and construction. Please see page A5 for further details.

**To-Scale Drawings.** Site and building plans were not used in the development of this study. We recommend the Association assemble and maintain a library of site and building plans of the entire facility. Record drawings should be scanned into an electronic format for safe storage and ease of distribution. Upon request for a nominal fee, Miller - Dodson can provide scanning services.

**Current Funding.** This reserve study has been prepared for Fiscal Year 2016 covering the period from January 1, 2016 to December 31, 2016. The projected Replacement Reserves on deposit as of January 1, 2016 are reported to be \$75,000. The planned contribution for the fiscal year is \$37,642. The balance and contribution figures have been supplied by the managing agent and confirmation or audit of these figures is beyond the scope of the study. For the purposes of this study, it is assumed that the annual contribution will be deposited at the end of each month.

**Acknowledgement.** Miller - Dodson Associates would like to acknowledge the assistance and input of the Mr. Larry Reynolds, Board Member and Community Manager, Ms. Deborah Wallace who provided very helpful insight into the current operations of the property.

**Analyst's Credentials.** Larry D. Ellis holds a Bachelor's Degree in Industrial Management from the University of Tennessee and a Master's Degree in Industrial Management from Central Michigan University. He has over 20 years' experience in management engineering with the United States Air Force and over 18 years working with community associations and capital reserve analysis. Larry holds a Reserve Specialist (RS) Certification from the Community Associations Institute (CAI). He also holds a Professional Community Association Manager (PCAM) Certification from the Community Associations Institute (CAI). Larry has extensive experience at portfolio management and has managed large-scale properties, including both condominium and HOA. He has worked as a Regional Director for a large Management Company responsible for over a 100 properties and their employees and as Director of Business Development at the corporate level. Currently, Larry is a reserve specialist for Miller - Dodson Associates.

Respectfully submitted,



Larry D. Ellis, AMS, PCAM, RS  
Reserve Specialist

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## EXECUTIVE SUMMARY

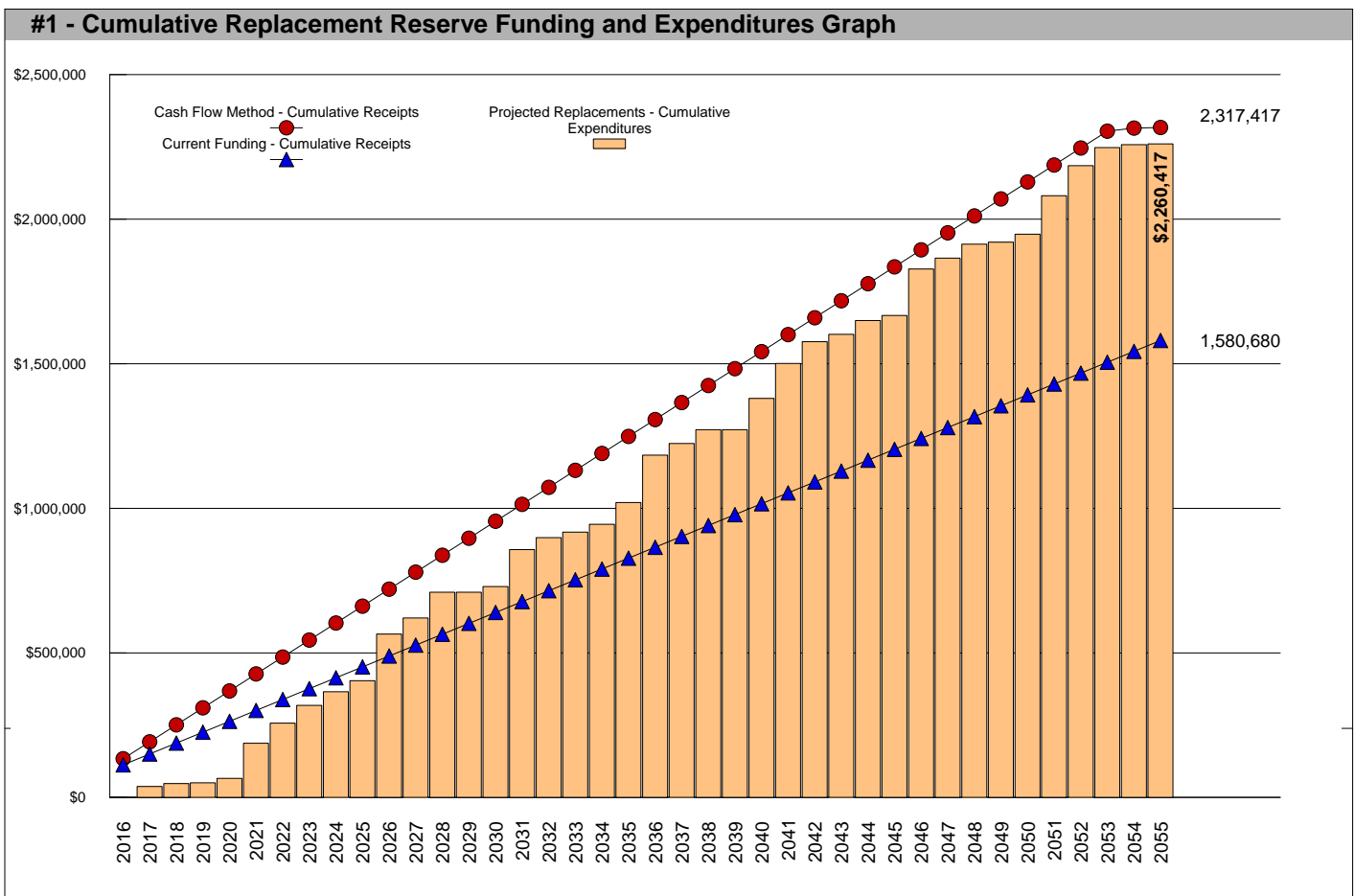
The Willow Springs Townhomes Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 73 Projected Replacements identified in the Replacement Reserve Inventory.

**\$58,680** RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2016

\$152.81 Per unit (average), minimum monthly funding of Replacement Reserves

We recommend the Association adopt a Replacement Reserve Funding Plan based on the annual funding recommendation above. Inflation adjusted funding for subsequent years is shown on Page A5.

Willow Springs Townhomes reports a Starting Balance of \$75,000 and Annual Funding totaling \$37,642. Current funding is inadequate to fund the \$2,260,417 of Projected Replacements scheduled in the Replacement Reserve Inventory over the 40-year Study Period. See Page A3 for a more detailed evaluation.



The Current Funding Objective as calculated by the Component Method (Fully Funded) is \$379,164 making the reserve account 19.8% funded. See the Appendix for more information on this method.

06/10/15. Changed starting balance.



**REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION**

The Willow Springs Townhomes Replacement Reserve Analysis calculations of recommended funding of Replacement Reserves by the Cash Flow Method and the evaluation of the Current Funding are based upon the same Study Year, Study Period, Beginning Balance, Replacement Reserve Inventory and Level of Service.

**2016 | STUDY YEAR**

The Association reports that their accounting year begins on January 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on January 1, 2016.

**40 Years | STUDY PERIOD**

The Replacement Reserve Analysis evaluates the funding of Replacement Reserves over a 40-year Study Period.

**\$75,000 | STARTING BALANCE**

The Association reports Replacement Reserves on Deposit totaling \$75,000 at the start of the Study Year.

**Level One | LEVEL OF SERVICE**

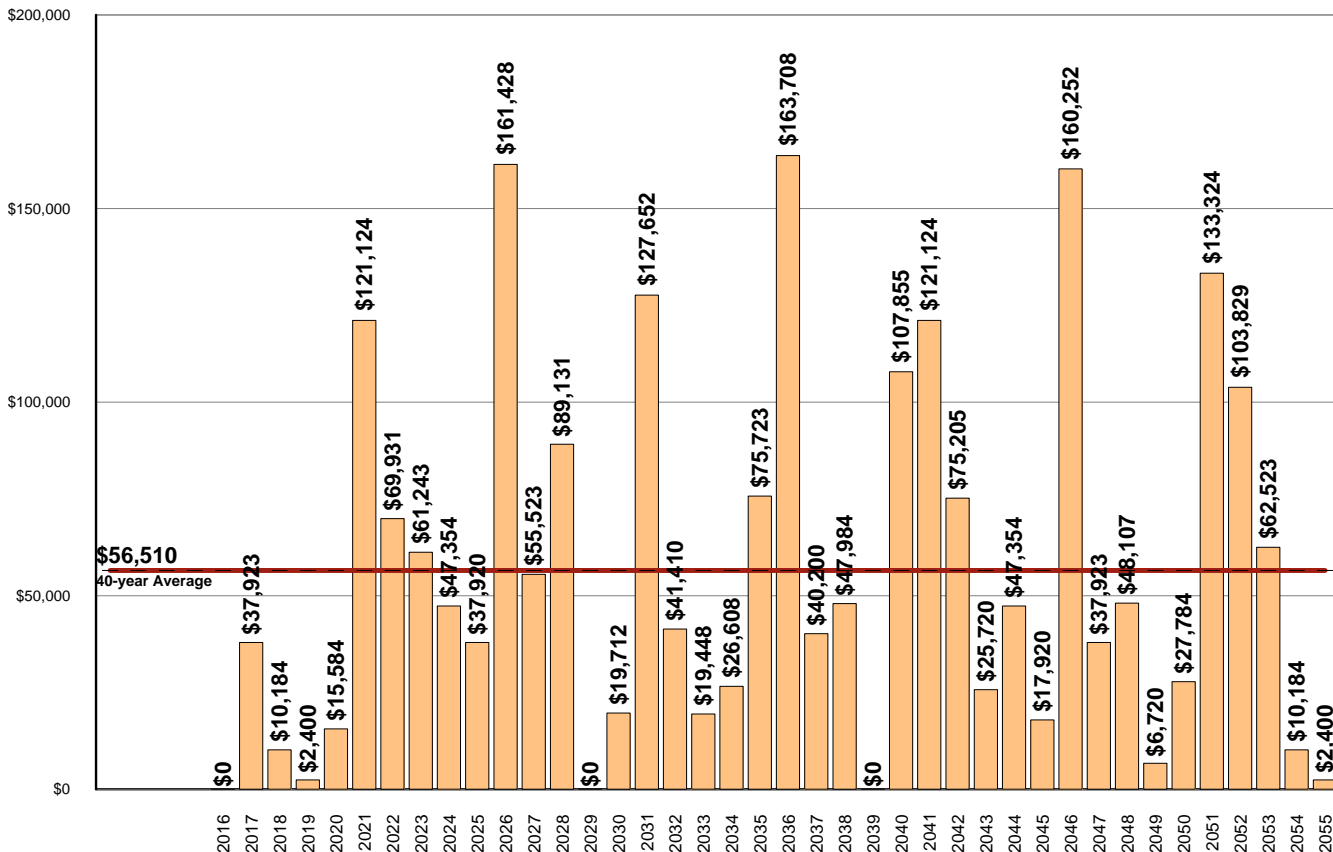
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level One Study, as defined by the Community Associations Institute (CAI).

**\$2,260,417 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS**

The Willow Springs Townhomes Replacement Reserve Inventory identifies 73 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$2,260,417 over the 40-year Study Period. The Projected Replacements are divided into 12 major categories starting on Page B3. Pages B1-B2 provide detailed information on the Replacement Reserve Inventory.

**#2 - Annual Expenditures for Projected Replacements Graph**

This graph shows annual expenditures for Projected Replacements over the 40-year Study Period. The red line shows the average annual expenditure of \$56,510. Section C provides a year by year Calendar of these expenditures.





## UPDATING

### UPDATING OF THE FUNDING PLAN

The Association has a responsibility to review the Funding Plan annually. The review should include a comparison and evaluation of actual reserve funding with recommended levels shown on Page A4 and A5. The Projected Replacements listed on Page C2 should be compared with any replacements accomplished and funded from Replacement Reserves. Discrepancies should be evaluated and if necessary, the Reserve Study should be updated or a new study commissioned. We recommend annual increases in replacement reserve funding to account for the impact of inflation. Inflation Adjusted Funding is discussed on Page A5.

### UPDATING OF THE REPLACEMENT RESERVE STUDY

At a minimum, the Replacement Reserve Study should be professionally updated every three to five years or after completion of a major replacement project. Updating should also be considered if during the annual review of the Funding Plan, discrepancies are noted between projected and actual reserve funding or replacement costs. Updating may also be necessary if there is a meaningful discrepancy between the actual inflation rate and the inflation rate used for the Inflation Adjusted Funding of Replacement Reserves on Page A5.

### ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the \$2,260,417 of Projected Expenditures over the 40-year Study Period and the impact of the Association continuing to fund Replacement Reserves at the current level are detailed in Table 3.

<b>#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40</b>										
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Starting Balance	\$75,000									
Projected Replacements		(\$37,923)	(\$10,184)	(\$2,400)	(\$15,584)	(\$121,124)	(\$69,931)	(\$61,243)	(\$47,354)	(\$37,920)
Annual Deposit	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642
End of Year Balance	\$112,642	\$112,361	\$139,819	\$175,061	\$197,119	\$113,637	\$81,347	\$57,746	\$48,034	\$47,756
Cumulative Expenditures		(\$37,923)	(\$48,107)	(\$50,507)	(\$66,091)	(\$187,215)	(\$257,147)	(\$318,390)	(\$365,744)	(\$403,664)
Cumulative Receipts	\$112,642	\$150,284	\$187,926	\$225,568	\$263,210	\$300,852	\$338,494	\$376,136	\$413,778	\$451,420
Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Projected Replacements	(\$161,428)	(\$55,523)	(\$89,131)		(\$19,712)	(\$127,652)	(\$41,410)	(\$19,448)	(\$26,608)	(\$75,723)
Annual Deposit	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642
End of Year Balance	(\$76,030)	(\$93,911)	(\$145,401)	(\$107,759)	(\$89,829)	(\$179,839)	(\$183,607)	(\$165,413)	(\$154,379)	(\$192,460)
Cumulative Expenditures	(\$565,092)	(\$620,615)	(\$709,747)	(\$709,747)	(\$729,459)	(\$857,111)	(\$898,521)	(\$917,969)	(\$944,577)	(\$1,020,300)
Cumulative Receipts	\$489,062	\$526,704	\$564,346	\$601,988	\$639,630	\$677,272	\$714,914	\$752,556	\$790,198	\$827,840
Year	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Projected Replacements	(\$163,708)	(\$40,200)	(\$47,984)		(\$107,855)	(\$121,124)	(\$75,205)	(\$25,720)	(\$47,354)	(\$17,920)
Annual Deposit	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642
End of Year Balance	(\$318,526)	(\$321,084)	(\$331,426)	(\$293,784)	(\$363,996)	(\$447,478)	(\$485,042)	(\$473,120)	(\$482,832)	(\$463,110)
Cumulative Expenditures	(\$1,184,008)	(\$1,224,208)	(\$1,272,192)	(\$1,272,192)	(\$1,380,046)	(\$1,501,170)	(\$1,576,376)	(\$1,602,096)	(\$1,649,450)	(\$1,667,370)
Cumulative Receipts	\$865,482	\$903,124	\$940,766	\$978,408	\$1,016,050	\$1,053,692	\$1,091,334	\$1,128,976	\$1,166,618	\$1,204,260
Year	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
Projected Replacements	(\$160,252)	(\$37,923)	(\$48,107)	(\$6,720)	(\$27,784)	(\$133,324)	(\$103,829)	(\$62,523)	(\$10,184)	(\$2,400)
Annual Deposit	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642	\$37,642
End of Year Balance	(\$585,720)	(\$586,001)	(\$596,466)	(\$565,544)	(\$555,686)	(\$651,368)	(\$717,556)	(\$742,437)	(\$714,979)	(\$679,737)
Cumulative Expenditures	(\$1,827,622)	(\$1,865,545)	(\$1,913,652)	(\$1,920,372)	(\$1,948,156)	(\$2,081,480)	(\$2,185,310)	(\$2,247,833)	(\$2,258,017)	(\$2,260,417)
Cumulative Receipts	\$1,241,902	\$1,279,544	\$1,317,186	\$1,354,828	\$1,392,470	\$1,430,112	\$1,467,754	\$1,505,396	\$1,543,038	\$1,580,680

### EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of \$75,000 & annual funding of \$37,642), is done in today's dollars with no adjustments for inflation or interest earned on Replacement Reserves. The evaluation assumes Replacement Reserves will only be used for the 73 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$37,642 throughout the 40-year Study Period.

Annual Funding of \$37,642 is approximately 64 percent of the \$58,680 recommended Annual Funding calculated by the Cash Flow Method for 2016, the Study Year.

Evaluation of the 73 Projected Replacements calculates an average annual expenditure over the next 40 years of \$56,510. Annual funding of \$37,642 is 67 percent of the average annual expenditure.

Our calculations identify funding shortfalls in 30 years of the Study Period with the initial shortfall in 2026. The largest shortfall, \$-742,437, occurs in 2042. All shortfalls can be seen and evaluated in Table 3 above.

In summary, Current Funding as reported by the Association and shown above, does not provide adequate funding for the \$2,260,417 of Projected Replacements scheduled in the Replacement Reserve Inventory over the Study Period.

### CASH FLOW METHOD FUNDING

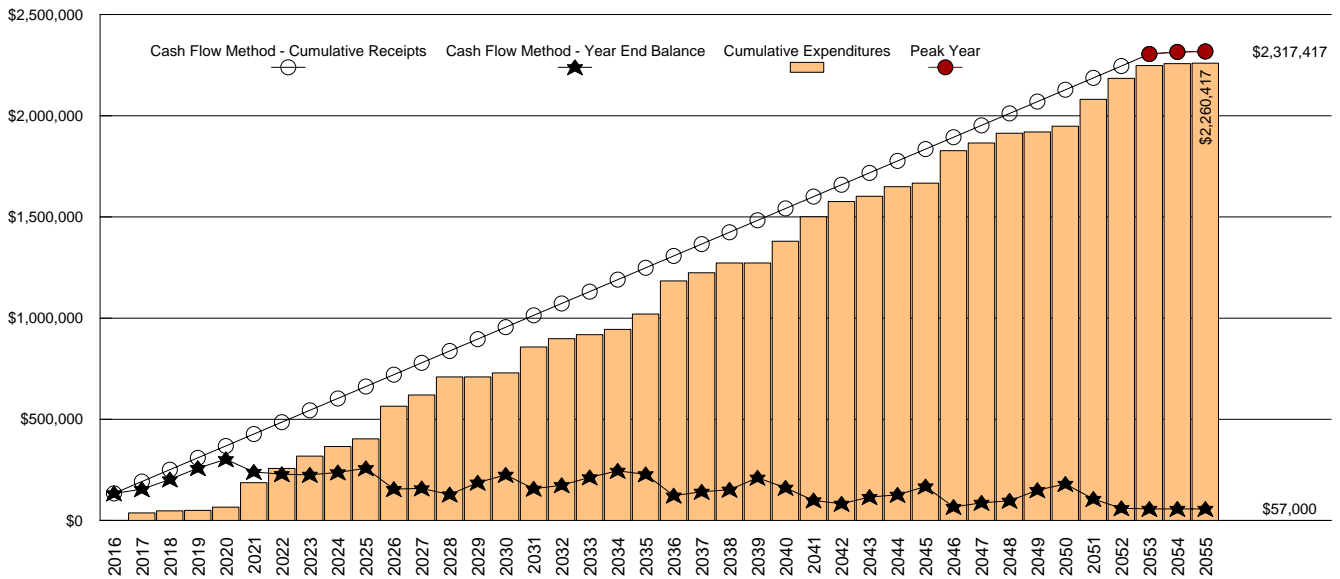
**\$58,680** RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2016

\$152.81 Per unit (average), minimum monthly funding of Replacement Reserves

Recommended Replacement Reserve Funding has been calculated using the Cash Flow Method (also called the Straight Line or Threshold Method). This method calculates a constant annual funding between peaks in cumulative expenditures, while maintaining a Minimum Balance (threshold) in the Peak Years.

- **Peak Years.** The First Peak Year occurs in 2053 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$2,247,833 of replacements from 2016 to 2053. Recommended funding declines from \$58,680 in 2053 to \$10,184 in 2054. Peak Years are identified in Chart 4 and Table 5.
- **Minimum Balance.** The calculations assume a Minimum Balance of \$57,000 in Replacement Reserves. This is approx. 12 months of average expenditures based on the \$56,510, 40-year average annual expenditure.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$2,260,417 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2055 and in 2055, the end of year balance will always be the Minimum Balance.

**#4 - Cash Flow Method - Graph of Cumulative Receipts and Expenditures - Years 1 through 40**



**#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40**

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Starting Balance	\$75,000									
Projected Replacements		(\$37,923)	(\$10,184)	(\$2,400)	(\$15,584)	(\$121,124)	(\$69,931)	(\$61,243)	(\$47,354)	(\$37,920)
Annual Deposit	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680
End of Year Balance	\$133,680	\$154,436	\$202,932	\$259,212	\$302,308	\$239,864	\$228,612	\$226,049	\$237,374	\$258,134
Cumulative Expenditures		\$37,923	\$48,107	\$50,507	\$66,091	\$187,215	\$257,147	\$318,390	\$365,744	\$403,664
Cumulative Receipts	\$133,680	\$192,360	\$251,039	\$309,719	\$368,399	\$427,079	\$485,759	\$544,439	\$603,118	\$661,798
Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Projected Replacements	(\$161,428)	(\$55,523)	(\$89,131)	(\$19,712)	(\$127,652)	(\$121,124)	(\$41,410)	(\$19,448)	(\$26,608)	(\$75,723)
Annual Deposit	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680
End of Year Balance	\$155,386	\$158,542	\$128,091	\$186,771	\$225,739	\$156,766	\$174,036	\$213,268	\$245,340	\$228,296
Cumulative Expenditures	(\$565,092)	(\$620,615)	(\$709,747)	(\$709,747)	(\$729,459)	(\$857,111)	(\$898,521)	(\$917,969)	(\$944,577)	(\$1,020,300)
Cumulative Receipts	\$720,478	\$779,158	\$837,838	\$896,517	\$955,197	\$1,013,877	\$1,072,557	\$1,131,237	\$1,189,917	\$1,248,596
Year	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Projected Replacements	(\$163,708)	(\$40,200)	(\$47,984)	(\$107,855)	(\$121,124)	(\$75,205)	(\$25,720)	(\$47,354)	(\$17,920)	(\$17,920)
Annual Deposit	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680
End of Year Balance	\$123,268	\$141,748	\$152,444	\$211,124	\$161,949	\$99,505	\$82,979	\$115,939	\$127,680	\$168,025
Cumulative Expenditures	(\$1,184,008)	(\$1,224,208)	(\$1,272,192)	(\$1,272,192)	(\$1,380,046)	(\$1,501,170)	(\$1,576,376)	(\$1,602,096)	(\$1,649,450)	(\$1,667,370)
Cumulative Receipts	\$1,307,276	\$1,365,956	\$1,424,636	\$1,483,316	\$1,541,995	\$1,600,675	\$1,659,355	\$1,718,035	\$1,776,715	\$1,835,395
Year	2046	2047	2048	2049	2050	2051	2052	1st Peak - 2053	2nd Peak - 2054	3rd Peak - 2055
Projected Replacements	(\$160,252)	(\$37,923)	(\$48,107)	(\$6,720)	(\$27,784)	(\$133,324)	(\$103,829)	(\$82,523)	(\$10,184)	(\$2,400)
Annual Deposit	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$58,680	\$2,400
End of Year Balance	\$66,453	\$87,209	\$97,782	\$149,741	\$180,637	\$105,993	\$60,844	\$57,000	\$10,184	\$57,000
Cumulative Expenditures	(\$1,827,622)	(\$1,865,545)	(\$1,913,652)	(\$1,920,372)	(\$1,948,156)	(\$2,081,480)	(\$2,185,310)	(\$2,247,833)	(\$2,258,017)	(\$2,260,417)
Cumulative Receipts	\$1,894,074	\$1,952,754	\$2,011,434	\$2,070,114	\$2,128,794	\$2,187,473	\$2,246,153	\$2,304,833	\$2,315,017	\$2,317,417

## INFLATION ADJUSTED FUNDING

The Cash Flow Method calculations on Page A4 have been done in today's dollars with no adjustment for inflation. At Miller + Dodson, we believe that long-term inflation forecasting is effective at demonstrating the power of compounding, not at calculating appropriate funding levels for Replacement Reserves. We have developed this proprietary model to estimate the short-term impact of inflation on Replacement Reserve funding.

### **\$58,680** 2016 - CASH FLOW METHOD RECOMMENDED FUNDING

The 2016 Study Year calculations have been made using current replacement costs (see Page B2), modified by the Analyst for any project specific conditions.

### **\$61,522** 2017 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2017 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$133,680 on January 1, 2017.
  - No Expenditures from Replacement Reserves in 2016.
  - Construction Cost Inflation of 4.50 percent in 2016.
- The \$61,522 inflation adjusted funding in 2017 is a 4.84 percent increase over the non-inflation adjusted 2017 funding of \$58,680.

### **\$64,492** 2018 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2018 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$155,572 on January 1, 2018.
- All 2017 Projected Replacements listed on Page C2 accomplished at a cost to Replacement Reserves less than \$39,630.
- Construction Cost Inflation of 4.50 percent in 2017.

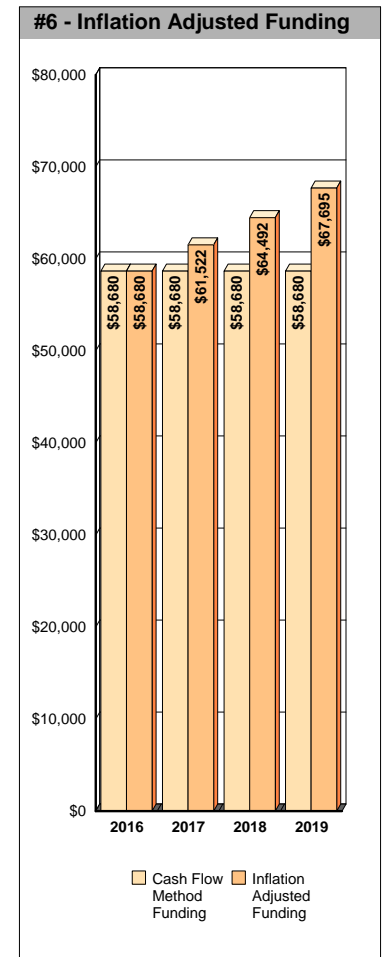
The \$64,492 inflation adjusted funding in 2018 is a 9.90 percent increase over the non-inflation adjusted 2018 funding of \$58,680.

### **\$67,695** 2019 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2019 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$208,942 on January 1, 2019.
- All 2018 Projected Replacements listed on Page C2 accomplished at a cost to Replacement Reserves less than \$11,121.
- Construction Cost Inflation of 4.50 percent in 2018.

The \$67,695 inflation adjusted funding in 2019 is a 15.36 percent increase over the non-inflation adjusted funding of \$58,680.



## YEAR FIVE & BEYOND

The inflation adjusted funding calculations outlined above are not intended to be a substitute for periodic evaluation of common elements by an experienced Reserve Analyst. Industry Standards, lender requirements, and many state and local statutes require a Replacement Reserve Study be professionally updated every 3 to 5 years.

## INFLATION ADJUSTMENT

Prior to approving a budget based upon the 2017, 2018 and 2019 inflation adjusted funding calculations above, the 4.50 percent base rate of inflation used in our calculations should be compared to rates published by the Bureau of Labor Statistics. If there is a significant discrepancy (over 1 percent), contact Miller Dodson + Associates prior to using the Inflation Adjusted Funding.

## INTEREST ON RESERVES

The recommended funding calculations do not account for interest earned on Replacement Reserves.

In 2016, based on a 1.00 percent interest rate, we estimate the Association may earn \$1,043 on an average balance of \$104,340, \$1,446 on an average balance of \$144,626 in 2017, and \$1,823 on \$182,257 in 2018. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2016 funding from \$58,680 to \$57,636 (a 1.78 percent reduction), \$61,522 to \$60,076 in 2017 (a 2.35 percent reduction), and \$64,492 to \$62,669 in 2018 (a 2.83 percent reduction).

## **REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS**

- Willow Springs Townhomes has 32 units. The type of property is a townhome association.
- The Cash Flow Method calculates the minimum annual funding necessary to prevent Replacement Reserves from dropping below the Minimum Balance. Failure to fund at least the recommended levels may result in funding not being available for the Projected Replacements listed in the Replacement Reserve Inventory.
- The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 73 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B1.

## REPLACEMENT RESERVE INVENTORY GENERAL INFORMATION

Willow Springs Townhomes - Replacement Reserve Inventory identifies 107 items. Two types of items are identified, Projected Replacements and Excluded Items:

- **PROJECTED REPLACEMENTS.** 73 of the items are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of \$987,114. Replacements totaling \$1,667,370 are scheduled in the Replacement Reserve Inventory over the 30-year Study Period.

Projected Replacements are the replacement of commonly-owned physical assets that require periodic replacement and whose replacement is to be funded from Replacement Reserves.

- **EXCLUDED ITEMS.** 34 of the items are Excluded Items, and expenditures for these items are NOT scheduled for funding from Replacement Reserves. The accuracy of the calculations made in the Replacement Reserve Analysis is dependent on expenditures NOT being made for Excluded Items. The Excluded Items are listed in the Replacement Reserve Inventory to identify specific items and categories of items that are not to be funded from Replacement Reserves. There are multiple categories of items that are typically excluded from funding by Replacement Reserves, including but not limited to:

**Tax Code.** The United States Tax Code grants very favorable tax status to Replacement Reserves, conditioned on expenditures being made within certain guidelines. These guidelines typically exclude maintenance activities, minor repairs and capital improvements.

**Value.** Items with a replacement cost of less than \$1,000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect Association policy on the administration of Replacement Reserves. If the Association has selected an alternative level, it will be noted in the Replacement Reserve Inventory - General Comments on Page B2.

**Long-lived Items.** Items that when properly maintained, can be assumed to have a life equal to the property as a whole, are typically excluded from the Replacement Reserve Inventory.

**Unit improvements.** Items owned by a single unit and where the items serve a single unit are generally assumed to be the responsibility of that unit, not the Association.

**Other non-common improvements.** Items owned by the local government, public and private utility companies, the United States Postal Service, Master Associations, state and local highway authorities, etc., may be installed on property that is owned by the Association. These types of items are generally not the responsibility of the Association and are excluded from the Replacement Reserve Inventory.

The rationale for the exclusion of an item from funding by Replacement Reserves is discussed in more detail in the 'Comments' sections of the Section B - Replacement Reserve Inventory.

- **CATEGORIES.** The 107 items included in the Willow Springs Townhomes Replacement Reserve Inventory are divided into 12 major categories. Each category is printed on a separate page, Pages B3 to B13.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level One Study - Full Service, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

*A Level I - Full Service Reserve Study includes the computation of complete component inventory information regarding commonly owned components provided by the Association, quantities derived from field measurements and/or quantity takeoffs from to-scale engineering drawings that may be made available. The condition of all components is ascertained from a visual inspection of each component by the analyst. The remaining economic life and the value of the components are provided based on these observations and the funding status and funding plan are then derived from analysis of this data.*

## REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (cont'd)

- **INVENTORY DATA.** Each of the 73 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:

Item Number. The Item Number is assigned sequentially and is intended for identification purposes only.

Item Description. We have identified each item included in the Inventory. Additional information may be included in the Comments section at the bottom of each page of the Inventory.

Units. We have used standard abbreviations to identify the number of units including SF-square feet, LF-lineal feet, SY-square yard, LS-lump sum, EA-each, and PR-pair. Non-standard abbreviations are noted in the Comments section at the bottom of the page.

Number of Units. The methods used to develop the quantities are discussed in "Level of Service" above.

Unit Replacement Cost. We use four sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, information provided by local contractors and suppliers, industry standard estimating manuals, and a cost database we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work.

Normal Economic Life (Yrs). The number of years that a new and properly installed item should be expected to remain in service.

Remaining Economic Life (Yrs). The estimated number of years before an item will need to be replaced. In "normal" conditions, this could be calculated by subtracting the age of the item from the Normal Economic Life of the item, but only rarely do physical assets age "normally". Some items may have longer or shorter lives depending on many factors such as environment, initial quality of the item, maintenance, etc.

Total Replacement Cost. This is calculated by multiplying the Unit Replacement Cost by the Number of Units.

Each of the 34 Excluded Items includes the Item Description, Units, and Number of Units. Many of the Excluded Items are listed as a 'Lump Sum' with a quantity of 1. For the Excluded Items, this indicates that all of the items identified by the 'Item Description' are excluded from funding by Replacement Reserves.

- **REVIEW OF EXPENDITURES.** This Replacement Reserve Study should be reviewed by an accounting professional representing the Association prior to implementation.
- **PARTIAL FUNDING.** Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies, when they enter the 40-year window.

**SITE COMPONENT  
PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
1	Concrete driveway (6%)	sf	782	\$8.70	60	6	\$6,803
2	Concrete driveway (6%)	sf	782	\$8.70	60	12	\$6,803
3	Concrete driveway (6%)	sf	782	\$8.70	60	18	\$6,803
4	Concrete driveway (6%)	sf	782	\$8.70	60	24	\$6,803
5	Concrete driveway (6%)	sf	782	\$8.70	60	30	\$6,803
6	Concrete driveway (6%)	sf	782	\$8.70	60	36	\$6,803
7	Concrete driveway (6%)	sf	782	\$8.70	60	42	\$6,803
8	Concrete driveway (6%)	sf	782	\$8.70	60	48	\$6,803
9	Concrete driveway (6%)	sf	782	\$8.70	60	54	\$6,803
10	Concrete driveway (6%)	sf	782	\$8.70	60	60	\$6,803
11	Concrete leadwalk (6%)	sf	193	\$8.50	60	6	\$1,641
12	Concrete leadwalk (6%)	sf	193	\$8.50	60	12	\$1,641
13	Concrete leadwalk (6%)	sf	193	\$8.50	60	18	\$1,641
14	Concrete leadwalk (6%)	sf	193	\$8.50	60	24	\$1,641
15	Concrete leadwalk (6%)	sf	193	\$8.50	60	30	\$1,641
16	Concrete leadwalk (6%)	sf	193	\$8.50	60	36	\$1,641
17	Concrete leadwalk (6%)	sf	193	\$8.50	60	42	\$1,641
18	Concrete leadwalk (6%)	sf	193	\$8.50	60	48	\$1,641
19	Concrete leadwalk (6%)	sf	193	\$8.50	60	54	\$1,641
20	Concrete leadwalk (6%)	sf	193	\$8.50	60	60	\$1,641

SITE COMPONENT - Replacement Costs - Subtotal \$84,439

**SITE COMPONENT  
COMMENTS**

- For concrete components and other roadway shoulder work, we have assumed that the Association will conduct concrete component replacement projects in conjunction with the asphalt pavement and other concrete or right-of-way replacement projects.



**SITE COMPONENT (cont.)**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
21	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	6	\$5,580
22	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	12	\$5,580
23	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	18	\$5,580
24	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	24	\$5,580
25	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	30	\$5,580
26	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	36	\$5,580
27	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	42	\$5,580
28	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	48	\$5,580
29	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	54	\$5,580
30	Concrete patio & stoop/step (6%)	sf	620	\$9.00	60	60	\$5,580
31	Fence (alu)	ft	310	\$32.00	30	17	\$9,920
32	Fence (vinyl)	ft	280	\$25.00	25	12	\$7,000
33	Irrigation allowance	ls	1	\$2,400.00	3	3	\$2,400

SITE COMPONENT (cont.) - Replacement Costs - Subtotal \$75,120

**SITE COMPONENT (cont.)**

**COMMENTS**

Empty comment box for additional notes.

**BUILDING EXTERIOR  
PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
34	Shingle asphalt/fiberglass Bldg 1	sf	11,562	\$3.28	25	6	\$37,923
35	Shingle asphalt/fiberglass Bldg 2	sf	11,562	\$3.28	25	7	\$37,923
36	Shingle asphalt/fiberglass Bldg 3	sf	11,562	\$3.28	25	19	\$37,923
37	Shingle asphalt/fiberglass Bldg 4	sf	11,562	\$3.28	25	11	\$37,923
38	Shingle asphalt/fiberglass Bldg 5	sf	11,562	\$3.28	25	24	\$37,923
39	Shingle asphalt/fiberglass Bldg 6	sf	11,562	\$3.28	25	24	\$37,923
40	Shingle asphalt/fiberglass Bldg 7	sf	11,562	\$3.28	25	1	\$37,923
41	Shingle asphalt/fiberglass Bldg 8	sf	11,562	\$3.28	25	12	\$37,923
42	Gutter & downspout, 5" aluminum (25%)	ft	1,588	\$6.00	30	14	\$9,528
43	Gutter & downspout, 5" aluminum (25%)	ft	1,588	\$6.00	30	15	\$9,528
44	Gutter & downspout, 5" aluminum (25%)	ft	1,588	\$6.00	30	16	\$9,528
45	Gutter & downspout, 5" aluminum (25%)	ft	1,588	\$6.00	30	17	\$9,528
46	Siding & trim (10% w/ painting)	sf	2,846	\$9.50	5	5	\$27,037
47	Shutters (20% w/painting)	ea	43	\$24.00	5	5	\$1,032

BUILDING EXTERIOR - Replacement Costs - Subtotal \$369,568

**BUILDING EXTERIOR  
COMMENTS**

- 06/10/15. Changed remaining life of roofs as determined by an engineering report provided by the Association.

**BUILDING EXTERIOR (cont'd)**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
48	Painting	sf	34,662	\$2.50	5	5	\$86,655
49	Masonry, repointing 10%	sf	2,284	\$9.50	10	16	\$21,698
50	Caulking allowance w/painting	ls	1	\$1,000.00	5	5	\$1,000
51	Window, opening (25%)	sf	900	\$42.00	35	19	\$37,800
52	Window, opening (25%)	sf	900	\$42.00	35	20	\$37,800
53	Window, opening (25%)	sf	900	\$42.00	35	21	\$37,800
54	Window, opening (25%)	sf	900	\$42.00	35	22	\$37,800

BUILDING EXTERIOR (cont'd) - Replacement Costs - Subtotal \$260,553

**BUILDING EXTERIOR (cont'd)**  
**COMMENTS**

- Painting added at request of Association after advising of tax/IRS implications.

**BUILDING EXTERIOR (cont.)**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
55	Entry door (25%)	ea	13	\$800.00	25	9	\$10,400
56	Entry door (25%)	ea	13	\$800.00	25	10	\$10,400
57	Entry door (25%)	ea	13	\$800.00	25	11	\$10,400
58	Entry door (25%)	ea	13	\$800.00	25	12	\$10,400
59	Sliding door, glass (25%)	ea	3	\$1,800.00	20	4	\$5,400
60	Sliding door, glass (25%)	ea	3	\$1,800.00	20	5	\$5,400
61	Sliding door, glass (25%)	ea	3	\$1,800.00	20	6	\$5,400
62	Sliding door, glass (25%)	ea	3	\$1,800.00	20	7	\$5,400
63	Columns, Front	ea	24	\$300.00	25	9	\$7,200
64	Columns, Front	ea	24	\$300.00	25	10	\$7,200
65	Columns, Front	ea	24	\$300.00	25	11	\$7,200
66	Columns, Front	ea	24	\$300.00	25	12	\$7,200
67	Balcony deck replace incl membrane (10%)	ea	2	\$5,092.00	2	2	\$10,184
68	Balcony railing	ft	350	\$55.00	20	8	\$19,250
69	Metal railing, front entrance	ft	108	\$40.00	45	33	\$4,320
70	Garage door, residential (25%)	sf	896	\$20.00	20	7	\$17,920
71	Garage door, residential (25%)	sf	896	\$20.00	20	8	\$17,920
72	Garage door, residential (25%)	sf	896	\$20.00	20	9	\$17,920
73	Garage door, residential (25%)	sf	896	\$20.00	20	10	\$17,920
<b>BUILDING EXTERIOR (cont.) - Replacement Costs - Subtotal</b>							<b>\$197,434</b>

**BUILDING EXTERIOR (cont.)**

**COMMENTS**

- There are a total of 20 balcony decks. Four have been replaced and all future decks will be waterproof membrane. Pricing per deck provided by Association based on recent contracts plus cost of membrane.

**VALUATION EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Site lighting fixtures	ls	1				EXCLUDED
	Property identification signage	ls	1				EXCLUDED
	Miscellaneous signage	ls	1				EXCLUDED
	Mailboxes	ls	1				EXCLUDED
	Sprinkler head	ls	1				EXCLUDED
	Interior doors	ls	1				EXCLUDED

**VALUATION EXCLUSIONS**

**COMMENTS**

- Valuation Exclusions. For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, items with a dollar value less than \$1,000.00 have not been scheduled for funding from Replacement Reserves. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**LONG-LIFE EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Masonry features	ls	1				EXCLUDED
	Miscellaneous culverts	ls	1				EXCLUDED
	Exterior brick veneer	ls	1				EXCLUDED
	Building foundation(s)	ls	1				EXCLUDED
	Concrete floor slabs (interior)	ls	1				EXCLUDED
	Wall, floor, & roof structure	ls	1				EXCLUDED
	Fire protection/security systems	ls	1				EXCLUDED

**LONG-LIFE EXCLUSIONS**

**COMMENTS**

- Long Life Exclusions. Components that when properly maintained, can be assumed to have a life equal to the property as a whole, are normally excluded from the Replacement Reserve Inventory. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Exterior masonry is generally assumed to have an unlimited economic life but periodic repointing is required and we have included this for funding in the Replacement Reserve Inventory.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**UNIT IMPROVEMENTS EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Domestic water pipes serving one unit	ls	1				EXCLUDED
	Sanitary sewers serving one unit	ls	1				EXCLUDED
	Electrical wiring serving one unit	ls	1				EXCLUDED
	Cable TV service serving one unit	ls	1				EXCLUDED
	Unit mailbox	ls	1				EXCLUDED
	Unit interior	ls	1				EXCLUDED
	Unit HVAC system	ls	1				EXCLUDED

**UNIT IMPROVEMENTS EXCLUSIONS**

**COMMENTS**

- Unit improvement Exclusions. We understand that the elements of the project that relate to a single unit are the responsibility of that unit owner. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.



**UTILITY EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Primary electric feeds	ls	1				EXCLUDED
	Electric transformers	ls	1				EXCLUDED
	Cable TV systems and structures	ls	1				EXCLUDED
	Telephone cables and structures	ls	1				EXCLUDED
	Site lighting	ls	1				EXCLUDED
	Water mains and meters	ls	1				EXCLUDED
	Sanitary sewers	ls	1				EXCLUDED
	Stormwater management system	ls	1				EXCLUDED

**UTILITY EXCLUSIONS**

**COMMENTS**

- Utility Exclusions. Many improvements owned by utility companies are on property owned by the Association. We have assumed that repair, maintenance, and replacements of these components will be done at the expense of the appropriate utility company. Examples of items excluded from funding Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**MAINTENANCE AND REPAIR EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Cleaning of asphalt pavement	ls	1				EXCLUDED
	Crack sealing of asphalt pavement	ls	1				EXCLUDED
	Painting of curbs	ls	1				EXCLUDED
	Landscaping and site grading	ls	1				EXCLUDED
	Interior painting	ls	1				EXCLUDED
	Repair services	ls	1				EXCLUDED
	Partial replacements	ls	1				EXCLUDED
	Capital improvements	ls	1				EXCLUDED

**MAINTENANCE AND REPAIR EXCLUSIONS**

**COMMENTS**

- Maintenance activities, one-time-only repairs, and capital improvements. These activities are NOT appropriately funded from Replacement Reserves. The inclusion of such component in the Replacement Reserve Inventory could jeopardize the special tax status of ALL Replacement Reserves, exposing the Association to significant tax liabilities. We recommend that the Board of Directors discuss these exclusions and Revenue Ruling 75-370 with a Certified Public Accountant.
- Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**GOVERNMENT EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Government, roadways & parking	ls	1				EXCLUDED
	Government, sidewalks & curbs	ls	1				EXCLUDED
	Government, lighting	ls	1				EXCLUDED
	Government, stormwater mgmt.	ls	1				EXCLUDED

**GOVERNMENT EXCLUSIONS**

**COMMENTS**

- Government Exclusions. We have assumed that some of the improvements installed on property owned by the Association will be maintained by the state, county, or local government, or other association or other responsible entity. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Excluded right-of-ways, including LIST ROADS, and adjacent properties.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

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## PROJECTED ANNUAL REPLACEMENTS GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 73 Projected Replacements in the Willow Springs Townhomes Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C2.

### REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

- **REVISIONS.** Revisions will be made to the Replacement Reserve Analysis and Replacement Reserve Inventory in accordance with the written instructions of the Board of Directors. No additional charge is incurred for the first revision, if requested in writing within three months of the date of the Replacement Reserve Study. It is our policy to provide revisions in electronic (Adobe PDF) format only.
- **TAX CODE.** The United States Tax Code grants favorable tax status to a common interest development (CID) meeting certain guidelines for their Replacement Reserve. If a CID files their taxes as a 'Corporation' on Form 1120 (IRC Section 277), these guidelines typically require maintenance activities, partial replacements, minor replacements, capital improvements, and one-time only replacements to be excluded from Reserves. A CID cannot co-mingle planning for maintenance activities with capital replacement activities in the Reserves (Revenue Ruling 75-370). Funds for maintenance activities and capital replacements activities must be held in separate accounts. If a CID files taxes as an "Exempt Homeowners Association" using Form 1120H (IRC Section 528), the CID does not have to segregate these activities. However, because the CID may elect to change their method of filing from year to year within the Study Period, we advise using the more restrictive approach. We further recommend that the CID consult with their Accountant and consider creating separate and independent accounts and reserves for large maintenance items, such as painting.
- **CONFLICT OF INTEREST.** Neither Miller - Dodson Associates nor the Reserve Analyst has any prior or existing relationship with this Association which would represent a real or perceived conflict of interest.
- **RELIANCE ON DATA PROVIDED BY THE CLIENT.** Information provided by an official representative of the Association regarding financial, physical conditions, quality, or historical issues is deemed reliable.
- **INTENT.** This Replacement Reserve Study is a reflection of the information provided by the Association and the visual evaluations of the Analyst. It has been prepared for the sole use of the Association and is not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.
- **PREVIOUS REPLACEMENTS.** Information provided to Miller - Dodson Associates regarding prior replacements is considered to be accurate and reliable. Our visual evaluation is not a project audit or quality inspection.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the next thirty years, begins on Page C2. Actual experience in replacing the items may differ significantly from the cost estimates and time frames shown because of conditions beyond our control. These differences may be caused by maintenance practices, inflation, variations in pricing and market conditions, future technological developments, regulatory actions, acts of God, and luck. Some items may function normally during our visual evaluation and then fail without notice.
- **REVIEW OF THE REPLACEMENT RESERVE STUDY.** For this study to be effective, it should be reviewed by the Willow Springs Townhomes Board of Directors, those responsible for the management of the items included in the Replacement Reserve Inventory, and the accounting professionals employed by the Association.

**PROJECTED REPLACEMENTS - YEARS ONE TO FIFTEEN**

Item	2016 - STUDY YEAR	\$	Item	2017 - YEAR 2	\$	Item	2018 - YEAR 3	\$
	No Scheduled Replacements		40	Shingle asphalt/fiberglass B	\$37,923	67	Balcony deck replace incl m	\$10,184
				Total Scheduled Replacements	\$37,923		Total Scheduled Replacements	\$10,184
Item	2019 - YEAR 4	\$	Item	2020 - YEAR 5	\$	Item	2021 - YEAR 6	\$
33	Irrigation allowance	\$2,400	59	Sliding door, glass (25%)	\$5,400	46	Siding & trim (10% w/ paintir	\$27,037
			67	Balcony deck replace incl m	\$10,184	47	Shutters (20% w/painting)	\$1,032
						48	Painting	\$86,655
						50	Caulking allowance w/paintir	\$1,000
						60	Sliding door, glass (25%)	\$5,400
	Total Scheduled Replacements	\$2,400		Total Scheduled Replacements	\$15,584		Total Scheduled Replacements	\$121,124
Item	2022 - YEAR 7	\$	Item	2023 - YEAR 8	\$	Item	2024 - YEAR 9	\$
1	Concrete driveway (6%)	\$6,803	35	Shingle asphalt/fiberglass B	\$37,923	67	Balcony deck replace incl m	\$10,184
11	Concrete leadwalk (6%)	\$1,641	62	Sliding door, glass (25%)	\$5,400	68	Balcony railing	\$19,250
21	Concrete patio & stoop/step	\$5,580	70	Garage door, residential (25	\$17,920	71	Garage door, residential (25	\$17,920
33	Irrigation allowance	\$2,400						
34	Shingle asphalt/fiberglass B	\$37,923						
61	Sliding door, glass (25%)	\$5,400						
67	Balcony deck replace incl m	\$10,184						
	Total Scheduled Replacements	\$69,931		Total Scheduled Replacements	\$61,243		Total Scheduled Replacements	\$47,354
Item	2025 - YEAR 10	\$	Item	2026 - YEAR 11	\$	Item	2027 - YEAR 12	\$
33	Irrigation allowance	\$2,400	46	Siding & trim (10% w/ paintir	\$27,037	37	Shingle asphalt/fiberglass B	\$37,923
55	Entry door (25%)	\$10,400	47	Shutters (20% w/painting)	\$1,032	57	Entry door (25%)	\$10,400
63	Columns, Front	\$7,200	48	Painting	\$86,655	65	Columns, Front	\$7,200
72	Garage door, residential (25	\$17,920	50	Caulking allowance w/paintir	\$1,000			
			56	Entry door (25%)	\$10,400			
			64	Columns, Front	\$7,200			
			67	Balcony deck replace incl m	\$10,184			
			73	Garage door, residential (25	\$17,920			
	Total Scheduled Replacements	\$37,920		Total Scheduled Replacements	\$161,428		Total Scheduled Replacements	\$55,523
Item	2028 - YEAR 13	\$	Item	2029 - YEAR 14	\$	Item	2030 - YEAR 15	\$
2	Concrete driveway (6%)	\$6,803		No Scheduled Replacements		42	Gutter & downspout, 5" alur	\$9,528
12	Concrete leadwalk (6%)	\$1,641				67	Balcony deck replace incl m	\$10,184
22	Concrete patio & stoop/step	\$5,580						
32	Fence (vinyl)	\$7,000						
33	Irrigation allowance	\$2,400						
41	Shingle asphalt/fiberglass B	\$37,923						
58	Entry door (25%)	\$10,400						
66	Columns, Front	\$7,200						
67	Balcony deck replace incl m	\$10,184						
	Total Scheduled Replacements	\$89,131					Total Scheduled Replacements	\$19,712

**PROJECTED REPLACEMENTS - YEARS SIXTEEN TO THIRTY**

Item	2031 - YEAR 16	\$
33	Irrigation allowance	\$2,400
43	Gutter & downspout, 5" alur	\$9,528
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
Total Scheduled Replacements		\$127,652

Item	2032 - YEAR 17	\$
44	Gutter & downspout, 5" alurr	\$9,528
49	Masonry, repointing 10%	\$21,698
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$41,410

Item	2033 - YEAR 18	\$
31	Fence (alu)	\$9,920
45	Gutter & downspout, 5" alurr	\$9,528
Total Scheduled Replacements		\$19,448

Item	2034 - YEAR 19	\$
3	Concrete driveway (6%)	\$6,803
13	Concrete leadwalk (6%)	\$1,641
23	Concrete patio & stoop/step	\$5,580
33	Irrigation allowance	\$2,400
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$26,608

Item	2035 - YEAR 20	\$
36	Shingle asphalt/fiberglass B	\$37,923
51	Window, opening (25%)	\$37,800
Total Scheduled Replacements		\$75,723

Item	2036 - YEAR 21	\$
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
52	Window, opening (25%)	\$37,800
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$163,708

Item	2037 - YEAR 22	\$
33	Irrigation allowance	\$2,400
53	Window, opening (25%)	\$37,800
Total Scheduled Replacements		\$40,200

Item	2038 - YEAR 23	\$
54	Window, opening (25%)	\$37,800
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$47,984

Item	2039 - YEAR 24	\$
No Scheduled Replacements		

Item	2040 - YEAR 25	\$
4	Concrete driveway (6%)	\$6,803
14	Concrete leadwalk (6%)	\$1,641
24	Concrete patio & stoop/step	\$5,580
33	Irrigation allowance	\$2,400
38	Shingle asphalt/fiberglass B	\$37,923
39	Shingle asphalt/fiberglass B	\$37,923
59	Sliding door, glass (25%)	\$5,400
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$107,855

Item	2041 - YEAR 26	\$
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
60	Sliding door, glass (25%)	\$5,400
Total Scheduled Replacements		\$121,124

Item	2042 - YEAR 27	\$
40	Shingle asphalt/fiberglass B	\$37,923
49	Masonry, repointing 10%	\$21,698
61	Sliding door, glass (25%)	\$5,400
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$75,205

Item	2043 - YEAR 28	\$
33	Irrigation allowance	\$2,400
62	Sliding door, glass (25%)	\$5,400
70	Garage door, residential (25	\$17,920
Total Scheduled Replacements		\$25,720

Item	2044 - YEAR 29	\$
67	Balcony deck replace incl m	\$10,184
68	Balcony railing	\$19,250
71	Garage door, residential (25	\$17,920
Total Scheduled Replacements		\$47,354

Item	2045 - YEAR 30	\$
72	Garage door, residential (25	\$17,920
Total Scheduled Replacements		\$17,920



**PROJECTED REPLACEMENTS - YEARS THIRTY-ONE TO FORTY-FIVE**

Item	2046 - YEAR 31	\$
5	Concrete driveway (6%)	\$6,803
15	Concrete leadwalk (6%)	\$1,641
25	Concrete patio & stoop/step	\$5,580
33	Irrigation allowance	\$2,400
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
67	Balcony deck replace incl m	\$10,184
73	Garage door, residential (25	\$17,920
Total Scheduled Replacements		\$160,252

Item	2047 - YEAR 32	\$
34	Shingle asphalt/fiberglass B	\$37,923
Total Scheduled Replacements		\$37,923

Item	2048 - YEAR 33	\$
35	Shingle asphalt/fiberglass B	\$37,923
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$48,107

Item	2049 - YEAR 34	\$
33	Irrigation allowance	\$2,400
69	Metal railing, front entrance	\$4,320
Total Scheduled Replacements		\$6,720

Item	2050 - YEAR 35	\$
55	Entry door (25%)	\$10,400
63	Columns, Front	\$7,200
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$27,784

Item	2051 - YEAR 36	\$
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
56	Entry door (25%)	\$10,400
64	Columns, Front	\$7,200
Total Scheduled Replacements		\$133,324

Item	2052 - YEAR 37	\$
6	Concrete driveway (6%)	\$6,803
16	Concrete leadwalk (6%)	\$1,641
26	Concrete patio & stoop/step	\$5,580
33	Irrigation allowance	\$2,400
37	Shingle asphalt/fiberglass B	\$37,923
49	Masonry, repointing 10%	\$21,698
57	Entry door (25%)	\$10,400
65	Columns, Front	\$7,200
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$103,829

Item	2053 - YEAR 38	\$
32	Fence (vinyl)	\$7,000
41	Shingle asphalt/fiberglass B	\$37,923
58	Entry door (25%)	\$10,400
66	Columns, Front	\$7,200
Total Scheduled Replacements		\$62,523

Item	2054 - YEAR 39	\$
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$10,184

Item	2055 - YEAR 40	\$
33	Irrigation allowance	\$2,400
Total Scheduled Replacements		\$2,400

Item	2056 (beyond Study Period)	\$
46	Siding & trim (10% w/ paintir	\$27,037
47	Shutters (20% w/painting)	\$1,032
48	Painting	\$86,655
50	Caulking allowance w/paintir	\$1,000
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$125,908

Item	2057 (beyond Study Period)	\$
No Scheduled Replacements		

Item	2058 (beyond Study Period)	\$
7	Concrete driveway (6%)	\$6,803
17	Concrete leadwalk (6%)	\$1,641
27	Concrete patio & stoop/step	\$5,580
33	Irrigation allowance	\$2,400
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$26,608

Item	2059 (beyond Study Period)	\$
No Scheduled Replacements		

Item	2060 (beyond Study Period)	\$
36	Shingle asphalt/fiberglass B	\$37,923
42	Gutter & downspout, 5" alur	\$9,528
59	Sliding door, glass (25%)	\$5,400
67	Balcony deck replace incl m	\$10,184
Total Scheduled Replacements		\$63,035

## CONDITION ASSESSMENT

**General Comments.** Miller - Dodson Associates conducted a Reserve Study at Willow Springs Townhomes in April 2015. Willow Springs Townhomes is in generally good condition for a community constructed between 2001 and 2005. A review of the Replacement Reserve Inventory will show that we are anticipating most of the components achieving their normal economic lives except the roofs and balcony decks.

The following comments pertain to the larger, more significant components in the Replacement Reserve Inventory and to those items that are unique or deserving of attention because of their condition or the manner in which they have been treated in the Replacement Reserve Analysis or Inventory.

### General Condition Statements.

**Excellent.** 100% to 90% of Normal Economic Life expected, with no appreciable wear or defects.

**Good.** 90% to 60% of Normal Economic Life expected, minor wear or cosmetic defects found. Normal maintenance should be expected. If performed properly, normal maintenance may increase the useful life of a component. Otherwise, the component is wearing normally.

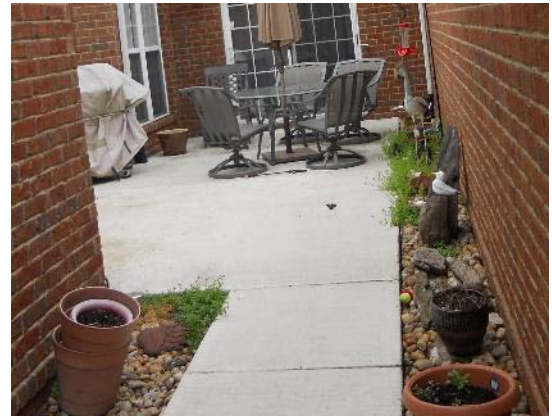
**Fair.** 60% to 30% of Normal Economic Life expected, moderate wear with defects found. Repair actions should be taken to extend the life of the component or to correct repairable defects and distress. Otherwise, the component is wearing normally.

**Marginal.** 30% to 10% of Normal Economic Life expected, with moderate to significant wear or distress found. Repair actions are expected to be cost effective for localized issues, but normal wear and use are evident. The component is reaching the end of the Normal Economic Life.

**Poor.** 10% to 0% of Normal Economic Life expected, with significant distress and wear. Left unattended, additional damage to underlying structures is likely to occur. Further maintenance is unlikely to be cost effective.

## SITE COMPONENTS

**Concrete Work.** The concrete work includes the community lead sidewalks, steps, stoops, patios, and other flatwork. The overall condition of the concrete work is good.



The standards we use for recommending replacement are as follows:

- Trip hazard, ½ inch height difference.
- Severe cracking.

- Severe spalling and scale.
- Uneven riser heights on steps.
- Steps with risers in excess of 8¼ inches.

Because it is highly unlikely that all of the concrete components will fail and require replacement in the period of the study, we have programmed funds for the replacement of these inventories and spread the funds over an extended timeframe to reflect the incremental nature of this work.

The relevant links on our web site may provide useful information related to concrete terminology, maintenance, and repair. Please see <http://mdareserves.com/resources/links/site-components>.

**Fencing.** The Association maintains vinyl and aluminum fencing that is in generally good condition. Fencing systems have a large number of configurations and finishes that can usually be repaired as a maintenance activity by replacing individual components as they become damaged or weathered.



Protection from string machine damage during lawn maintenance can extend the useful life of some fence types. Protection from this type of damage is typically provided by applying herbicides around post bases or installing protective sheathing.

Vinyl fencing made of 100% virgin material can last 25 to 30 years, and periodic cleaning will keep the fence looking attractive. Vinyl components with ticker walls can provide a longer useful life.

Aluminum fencing can have a useful life of 30 years or more. Periodic cleaning and touch-up painting may be required to keep the fence attractive.

For more information on fencing, visit our [website link](#) to the American Fence Association.

## BUILDING EXTERIORS

**Building Roofing.** The buildings are roofed in asphalt shingles that are in generally fair to poor condition. Roofs are reported to have failed early due to poor workmanship and material. The Association has a program of inspection to monitor the roofs.

Asphalt shingle roofs can have a useful life of 20 to 50 years depending on the weight and quality of the shingle. Weathered, curled, and missing shingles are all indications that the shingles may be nearing the end of their useful life.

Access to the roof was not provided at the time of inspection. Annual inspections are recommended, with cleaning, repair, and mitigation of vegetation performed as needed. Access, inspection, and repair work

should be performed by contractors and personnel with the appropriate access equipment who are experienced in the types of roofing used for the facility.

For additional information on roofs and roof maintenance, please see the appropriate links on our web site at <http://mdareserves.com/resources/links/building-exterior>.

**Gutters and Downspouts.** The buildings have aluminum gutters and downspouts. The gutters and downspouts are in good condition.

A gutter and downspout system will remove rainwater from the area of the building roof, siding, and foundation. This will protect building's exterior surfaces from water damage. Gutters should run the full length of all drip edges of the building roof. Even with full gutters, it is important to inspect the function of the gutters during heavy rain to identify any deficiencies. It may be necessary to periodically adjust the slope of sections, repair connections, replace hangers, and install shrouds to the gutters. Downspouts should be securely attached to the side of the structure. Any broken straps should be replaced. The area of the outlet should be inspected to promote run-off in the desired direction. Long straight runs should have an elbow at the bottom. Splash blocks should be installed to direct the water out-letting from the downspout.

It is recommended that all gutters be cleaned at least twice each year. If there are a large number of trees located close to a building, consider installing a gutter debris shield that will let water into the gutters but will filter out leaves, twigs, and other debris.

**Siding and Trim.** The exteriors of the buildings are clad in cementitious siding and brick masonry with wood trim. The siding and trim materials are in generally good condition.

Wooden exterior materials are typically repaired as needed during normal painting cycles. Painting cycles for wooden exteriors vary between five and ten years depending on the grade of wood and the quality of the materials and finish work. In this study, we have modeled for incremental wood material replacement to coincide with the painting cycle of the buildings.

Cementitious materials typically have an extended useful life and require repainting and recaulking every 5 to 10 years. Following the manufacturer's recommendations for cleaning, painting, and caulking, we expect cementitious products to have a useful life of 40 years or more. In this study, we have modeled for incremental cementitious siding material replacement to coincide with the painting cycle of the buildings.

Minor amounts of Stucco finishes are installed on the facility's exterior above the roofline. Most stucco deterioration is the result of water infiltration. This is generally first evident near the roof and around chimneys, windows, doors, and other wall penetrations. Moisture can also gain access through materials that are in contact with ground by a process called wicking. Moisture will cause the supporting lath for the stucco to rot or corrode, resulting in the stucco pulling away from the substrate. Significant deterioration of wooden and metal structural elements can occur. Similar to Exterior Insulation Finishing Systems (EIFS) a "water-managed system" is the approach for new construction. However, many older installations assume a water barrier system. It is recommended for all stucco surfaces be inspected at least once each year.

In this study, we provide for an allowance for incremental stucco repairs every 5 years with the paint cycle. Further inspection of the stucco and repair of any latent and concealed damage are not accounted for in this study. See <http://mdareserves.com/resources/links/building-exterior> for additional information.

Brick masonry is used as the main exterior cladding on five of the building. As masonry weathers, the mortar joints will become damaged by water penetration. As additional water gains access to the joints, repeated freeze-thaw cycles gradually increase the damage to the mortar joints. If allowed to progress, even the masonry units such as brick, block, and stone can have their surfaces affected and masonry units can become loose.

In general, masonry is considered a long-life item and is therefore excluded from reserve funding. However, because weather and other conditions result in the slow deterioration of the mortar in masonry joints, we have

included funding in this study for repointing. Repointing is the process of raking and cutting out damaged sections of mortar and replacing them with new mortar.

Periodic repointing and local replacement of damaged masonry units will limit the damage done by moisture penetration. For this study, we assume that 10% of the masonry will require repointing every 10 years after approximately 30 years. For additional information about masonry and repointing, please view the relevant links at <http://mdareserves.com/resources/links/building-exterior>.

**Windows and Doors.** The Association is responsible for all of the windows and exterior doors of the buildings. The windows and doors are in generally good condition.

Window and door units play an integral part in a building's overall comfort, efficiency, and energy use. The quality of the installed units and the care taken in their installation and maintenance are major factors in their effectiveness and useful life. These units can have a useful life of 20 to 35 years or more depending on their use and other factors mentioned above.

In general, we recommend coordinating the replacement of these units with other exterior work, such as siding and roof replacements. The weather tightness of the building envelope often requires transitional flashing and caulking that should be performed in coordination with each other. Warranties and advantages in 'economy of scale' can often result in lower overall replacement costs and results that are more reliable. Lastly, coordinated replacements offer the opportunity to correct initial construction defects and improve the effectiveness of details with improved construction techniques and materials.

For more information, please see our links at <http://mdareserves.com/resources/links/building-exterior>.

**Vinyl Window Shutters.** The Association maintains the window shutters on the units. Vinyl window shutters have a service life of 15 to 20 years. Their actual life depends on a number of factors, including the quality of the shutter, how well it was installed, and its exposure to sunlight and wind. In this study, we have modeled for incremental vinyl window shutter material replacement to coincide with the painting cycle of the buildings.

**Caulking.** The caulking on the facility's exteriors is in mixed condition. Caulking and sealants play a primary role in the protection of the building's exterior components and the overall weather tightness of the facility. Caulking also provides a seal between dissimilar materials and changes in construction where movement is expected. We therefore recommend recaulking where needed every five years, when painting or other exterior repairs and replacements are scheduled.

When recaulking, a simple overlay of the old caulk is improper. Rather, defective caulk joints should be completely cut out, cleaned, and prepped, with new backer materials installed as needed. New caulk can then be applied according to the manufacturer's guidelines and recommendations.

There are a significant number of sealants and caulks of varying quality and specialty. The proper specification, selection, preparation, and installation are critical to proper performance and longevity of the work. Environmental factors, including weather, can play a significant role in the success of this work.

For additional information on caulking and sealants, please see the appropriate links at <http://mdareserves.com/resources/links/building-exterior>.

**Balconies.** The Association maintains 20 balconies in mixed condition. We did not have access to the balconies at the time of our site visit. We understand that the balconies have had significant water penetration causing rotting and damage due to poor design. The Association has a program of incremental replacement with an added membrane and we have cycled those replacements accordingly.





Example Bick Bld.



Example Siding  
Bld.



This Condition Assessment is based upon our visual survey of the property. The sole purpose of the visual survey was an evaluation of the common elements of the property to ascertain the remaining useful life and the replacement costs of these common elements. Our evaluation assumed that all components met building code requirements in force at the time of construction. Our visual survey was conducted with care by experienced persons, but no warranty or guarantee is expressed or implied.

End of Condition Assessment



## CASH FLOW METHOD ACCOUNTING SUMMARY

This Willow Springs Townhomes - Cash Flow Method Accounting Summary is an attachment to the Willow Springs Townhomes - Replacement Reserve Study dated Revised June 10, 2015 and is for use by accounting and reserve professionals experienced in Association funding and accounting principles. This Summary consists of four reports, the 2016, 2017, and 2018 Cash Flow Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- CASH FLOW METHOD CATEGORY FUNDING REPORT, 2016, 2017, and 2018. Each of the 73 Projected Replacements listed in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of 5 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Cash Flow Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$75,000 Beginning Balance (at the start of the Study Year) and the \$176,039 of additional Replacement Reserve Funding in 2016 through 2018 (as calculated in the Replacement Reserve Analysis) to each of the 73 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and discussed below. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement scheduled in years 2016 through 2018.
  - Allocation of the \$75,000 Beginning Balance to the Projected Replacements by Chronological Allocation.
  - Allocation of the \$176,039 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2016 through 2018, by Chronological Allocation.
- CHRONOLOGICAL ALLOCATION. Chronological Allocation assigns Replacement Reserves to Projected Replacements on a "first come, first serve" basis in keeping with the basic philosophy of the Cash Flow Method. The Chronological Allocation methodology is outlined below.
  - The first step is the allocation of the \$75,000 Beginning Balance to the Projected Replacements in the Study Year. Remaining unallocated funds are next allocated to the Projected Replacements in subsequent years in chronological order until the total of Projected Replacements in the next year is greater than the unallocated funds. Projected Replacements in this year are partially funded with each replacement receiving percentage funding. The percentage of funding is calculated by dividing the unallocated funds by the total of Projected Replacements in the partially funded year.

At Willow Springs Townhomes the Beginning Balance funds all Scheduled Replacements in the Study Year through 2020 and provides partial funding (7%) of replacements scheduled in 2021.
  - The next step is the allocation of the \$58,680 of 2016 Cash Flow Method Reserve Funding calculated in the Replacement Reserve Analysis. These funds are first allocated to fund the partially funded Projected Replacements and then to subsequent years in chronological order as outlined above.

At Willow Springs Townhomes the Beginning Balance and the 2016 Replacement Reserve Funding, funds replacements through 2020 and partial funds (55.8%) replacements in 2021.
  - Allocations of the 2017 and 2018 Reserve Funding are done using the same methodology.
  - The Three-Year Replacement Funding Report details component by component allocations made by Chronological Allocation.

## 2016 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CF1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$75,000 as of the first day of the Study Year, January 1, 2016.
- Total reserve funding (including the Beginning Balance) of \$133,680 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2016 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF1								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2016 BEGINNING BALANCE	2016 RESERVE FUNDING	2016 PROJECTED REPLACEMENTS	2016 END OF YEAR BALANCE	
SITE COMPONENT	60 years	6 to 60 years	\$84,439					
SITE COMPONENT (cont.)	3 to 60 years	3 to 60 years	\$75,120	\$2,400			\$2,400	
BUILDING EXTERIOR	5 to 30 years	1 to 24 years	\$369,568	\$39,988	\$13,598		\$53,586	
BUILDING EXTERIOR (cont'd)	5 to 35 years	5 to 22 years	\$260,553	\$6,447	\$42,465		\$48,912	
BUILDING EXTERIOR (cont.)	2 to 45 years	2 to 33 years	\$197,434	\$26,165	\$2,616		\$28,781	

### 2017 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CF2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$133,680 on January 1, 2017.
- Total reserve funding (including the Beginning Balance) of \$192,360 from 2016 through 2017.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2017 being accomplished in 2017 at a cost of \$37,923.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2017 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF2								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2017 BEGINNING BALANCE	2017 RESERVE FUNDING	2017 PROJECTED REPLACEMENTS	2017 END OF YEAR BALANCE	
SITE COMPONENT	60 years	5 to 59 years	\$84,439		\$621			\$621
SITE COMPONENT (cont.)	3 to 60 years	2 to 59 years	\$75,120	\$2,400	\$587			\$2,987
BUILDING EXTERIOR	5 to 30 years	0 to 23 years	\$369,568	\$53,586	\$15,196	(\$37,923)		\$30,859
BUILDING EXTERIOR (cont'd)	5 to 35 years	4 to 21 years	\$260,553	\$48,912	\$38,743			\$87,655
BUILDING EXTERIOR (cont.)	2 to 45 years	1 to 32 years	\$197,434	\$28,781	\$3,533			\$32,314

## 2018 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CF3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$154,436 on January 1, 2018.
- Total Replacement Reserve funding (including the Beginning Balance) of \$251,039 from 2016 to 2018.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2018 being accomplished in 2018 at a cost of \$10,184.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2018 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF3								
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2018 BEGINNING BALANCE	2018 RESERVE FUNDING	2018 PROJECTED REPLACEMENTS	2018 END OF YEAR BALANCE	
SITE COMPONENT	60 years	4 to 58 years	\$84,439	\$621	\$7,085			\$7,706
SITE COMPONENT (cont.)	3 to 60 years	1 to 58 years	\$75,120	\$2,987	\$6,696			\$9,683
BUILDING EXTERIOR	5 to 30 years	3 to 24 years	\$369,568	\$30,859	\$31,822			\$62,680
BUILDING EXTERIOR (cont'd)	5 to 35 years	3 to 20 years	\$260,553	\$87,655	(\$0)			\$87,655
BUILDING EXTERIOR (cont.)	2 to 45 years	0 to 31 years	\$197,434	\$32,314	\$13,077	(\$10,184)		\$35,207





### COMPONENT METHOD

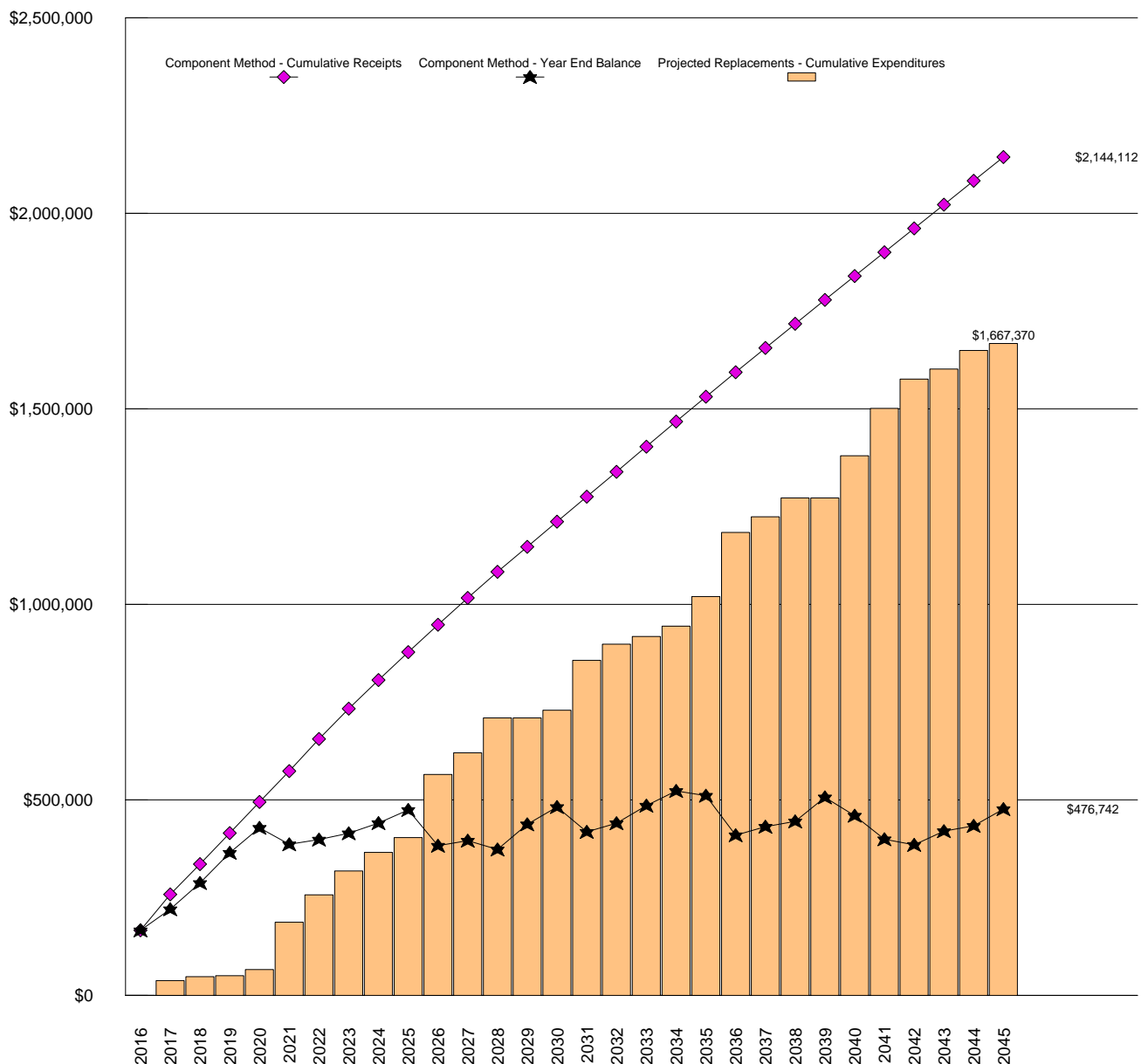


**\$91,643 COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2016.**

\$238.65 Per unit (average), recommended monthly funding of Replacement Reserves

General. The Component Method (also referred to as the Full Funded Method) is a very conservative mathematical model developed by HUD in the early 1980s. Each of the 73 Projected Replacements listed in the Replacement Reserve Inventory is treated as a separate account. The Beginning Balance is allocated to each of the individual accounts, as is all subsequent funding of Replacement Reserves. These funds are "locked" in these individual accounts and are not available to fund other Projected Replacements. The calculation of Recommended Annual Funding of Replacement Reserves is a multi-step process outlined in more detail on Page CM2.

**Component Method - Cumulative Receipts and Expenditures Graph**



**COMPONENT METHOD (cont'd)**

- **Current Funding Objective.** A Current Funding Objective is calculated for each of the Projected Replacements listed in the Replacement Reserve Inventory. Replacement Cost is divided by the Normal Economic Life to determine the nominal annual contribution. The Remaining Economic Life is then subtracted from the Normal Economic Life to calculate the number of years that the nominal annual contribution should have been made. The two values are then multiplied to determine the Current Funding Objective. This is repeated for each of the 73 Projected Replacements. The total, \$379,164, is the Current Funding Objective.

For an example, consider a very simple Replacement Reserve Inventory with one Projected Replacement, a fence with a \$1,000 Replacement Cost, a Normal Economic Life of 10 years, and a Remaining Economic Life of 2 years. A contribution to Replacement Reserves of \$100 (\$1,000 + 10 years) should have been made in each of the previous 8 years (10 years - 2 years). The result is a Current Funding Objective of \$800 (8 years x \$100 per year).

- **Funding Percentage.** The Funding Percentage is calculated by dividing the Beginning Balance (\$75,000) by the Current Funding Objective (\$379,164). At Willow Springs Townhomes the Funding Percentage is 19.8%
- **Allocation of the Beginning Balance.** The Beginning Balance is divided among the 73 Projected Replacements in the Replacement Reserve Inventory. The Current Funding Objective for each Projected Replacement is multiplied by the Funding Percentage and these funds are then "locked" into the account of each item.

If we relate this calculation back to our fence example, it means that the Association has not accumulated \$800 in Reserves (the Funding Objective), but rather at 19.8 percent funded, there is \$158 in the account for the fence.

- **Annual Funding.** The Recommended Annual Funding of Replacement Reserves is then calculated for each Projected Replacement. The funds allocated to the account of the Projected Replacement are subtracted from the Replacement Cost. The result is then divided by the number of years until replacement, and the result is the annual funding for each of the Projected Replacements. The sum of these is \$91,643, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2016).

In our fence example, the \$158 in the account is subtracted from the \$1,000 Total Replacement Cost and divided by the 2 years that remain before replacement, resulting in an annual deposit of \$421. Next year, the deposit remains \$421, but in the third year, the fence is replaced and the annual funding adjusts to \$100.

- **Adjustment to the Component Method for interest and inflation.** The calculations in the Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, inflation, or a constant annual increase in Annual Funding of Replacement Reserves. The Component Method is a very conservative method and if the Analysis is updated regularly, adequate funding will be maintained without the need for adjustments.

**Component Method Data - Years 1 through 30**

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Beginning balance	\$75,000									
Recommended annual funding	\$91,643	\$91,643	\$77,649	\$79,346	\$79,546	\$78,896	\$82,248	\$77,297	\$73,309	\$71,486
Interest on reserves										
Expenditures		\$37,923	\$10,184	\$2,400	\$15,584	\$121,124	\$69,931	\$61,243	\$47,354	\$37,920
Year end balance	\$166,643	\$220,362	\$287,827	\$364,773	\$428,735	\$386,508	\$398,825	\$414,879	\$440,833	\$474,400
Cumulative Expenditures		\$37,923	\$48,107	\$50,507	\$66,091	\$187,215	\$257,147	\$318,390	\$365,744	\$403,664
Cumulative Receipts	\$166,643	\$258,286	\$335,935	\$415,281	\$494,827	\$573,723	\$655,972	\$733,269	\$806,577	\$878,064
Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Recommended annual funding	\$69,920	\$68,614	\$66,683	\$64,154	\$64,154	\$63,899	\$63,676	\$64,375	\$64,028	\$63,623
Interest on reserves										
Expenditures	\$161,428	\$55,523	\$89,131		\$19,712	\$127,652	\$41,410	\$19,448	\$26,608	\$75,723
Year end balance	\$382,892	\$395,982	\$373,535	\$437,688	\$482,130	\$418,377	\$440,643	\$485,570	\$522,990	\$510,890
Cumulative Expenditures	\$565,092	\$620,615	\$709,747	\$709,747	\$729,459	\$857,111	\$898,521	\$917,969	\$944,577	\$1,020,300
Cumulative Receipts	\$947,984	\$1,016,598	\$1,083,281	\$1,147,435	\$1,211,589	\$1,275,488	\$1,339,164	\$1,403,538	\$1,467,566	\$1,531,189
Year	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Recommended annual funding	\$62,669	\$62,092	\$61,580	\$61,128	\$61,128	\$60,865	\$60,865	\$60,865	\$60,865	\$60,865
Interest on reserves										
Expenditures	\$163,708	\$40,200	\$47,984		\$107,855	\$121,124	\$75,205	\$25,720	\$47,354	\$17,920
Year end balance	\$409,851	\$431,743	\$445,338	\$506,466	\$459,739	\$399,481	\$385,140	\$420,286	\$433,797	\$476,742
Cumulative Expenditures	\$1,184,008	\$1,224,208	\$1,272,192	\$1,272,192	\$1,380,046	\$1,501,170	\$1,576,376	\$1,602,096	\$1,649,450	\$1,667,370
Cumulative Receipts	\$1,593,859	\$1,655,950	\$1,717,530	\$1,778,658	\$1,839,786	\$1,900,651	\$1,961,516	\$2,022,382	\$2,083,247	\$2,144,112



## COMPONENT METHOD ACCOUNTING SUMMARY

This Willow Springs Townhomes - Component Method Accounting Summary is an attachment to the Willow Springs Townhomes - Replacement Reserve Study dated Revised June 10, 2015 and is for use by accounting and reserve professionals experienced in Association funding and accounting principles. This Summary consists of four reports, the 2016, 2017, and 2018 Component Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- COMPONENT METHOD CATEGORY FUNDING REPORT, 2016, 2017, and 2018. Each of the 73 Projected Replacements listed in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of 5 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Component Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$75,000 Beginning Balance (at the start of the Study Year) and the \$260,935 of additional Replacement Reserve funding from 2016 to 2018 (as calculated in the Replacement Reserve Analysis) to each of the 73 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using the Component Method as outlined in the Replacement Reserve Analysis. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement schedule in years 2016 through 2018.
  - Allocation of the \$75,000 Beginning Balance to the Projected Replacements by the Component Method.
  - Allocation of the \$260,935 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2016 through 2018, by the Component Method.

## 2016 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CM1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$75,000 as of the first day of the Study Year, January 1, 2016.
- Total reserve funding (including the Beginning Balance) of \$166,643 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2016 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM1**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2016 BEGINNING BALANCE	2016 RESERVE FUNDING	2016 PROJECTED REPLACEMENTS	2016 END OF YEAR BALANCE
SITE COMPONENT	60 years	6 to 60 years	\$84,439	\$7,266	\$3,326		\$10,591
SITE COMPONENT (cont.)	3 to 60 years	3 to 60 years	\$75,120	\$6,251	\$3,793		\$10,043
BUILDING EXTERIOR	5 to 30 years	1 to 24 years	\$369,568	\$29,797	\$41,381		\$71,179
BUILDING EXTERIOR (cont'd)	5 to 35 years	5 to 22 years	\$260,553	\$11,536	\$22,397		\$33,933
BUILDING EXTERIOR (cont.)	2 to 45 years	2 to 33 years	\$197,434	\$20,151	\$20,747		\$40,897

## 2017 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CM2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$166,643 on January 1, 2017.
- Total reserve funding (including the Beginning Balance) of \$258,286 from 2016 through 2017.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2017 being accomplished in 2017 at a cost of \$37,923.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2017 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM2**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2017 BEGINNING BALANCE	2017 RESERVE FUNDING	2017 PROJECTED REPLACEMENTS	2017 END OF YEAR BALANCE
SITE COMPONENT	60 years	5 to 59 years	\$84,439	\$10,591	\$3,326		\$13,917
SITE COMPONENT (cont.)	3 to 60 years	2 to 59 years	\$75,120	\$10,043	\$3,793		\$13,836
BUILDING EXTERIOR	5 to 30 years	0 to 23 years	\$369,568	\$71,179	\$41,381	\$37,923	\$74,637
BUILDING EXTERIOR (cont'd)	5 to 35 years	4 to 21 years	\$260,553	\$33,933	\$22,397		\$56,330
BUILDING EXTERIOR (cont.)	2 to 45 years	1 to 32 years	\$197,434	\$40,897	\$20,747		\$61,644

## 2018 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 73 Projected Replacements included in the Willow Springs Townhomes Replacement Reserve Inventory has been assigned to one of the 5 categories listed in TABLE CM3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$220,362 on January 1, 2018.
- Total Replacement Reserve funding (including the Beginning Balance) of \$335,935 from 2016 to 2018.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2018 being accomplished in 2018 at a cost of \$10,184.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2018 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM3**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2018 BEGINNING BALANCE	2018 RESERVE FUNDING	2018 PROJECTED REPLACEMENTS	2018 END OF YEAR BALANCE
SITE COMPONENT	60 years	4 to 58 years	\$84,439	\$13,917	\$3,326		\$17,242
SITE COMPONENT (cont.)	3 to 60 years	1 to 58 years	\$75,120	\$13,836	\$3,793		\$17,628
BUILDING EXTERIOR	5 to 30 years	3 to 24 years	\$369,568	\$74,637	\$27,387		\$102,024
BUILDING EXTERIOR (cont'd)	5 to 35 years	3 to 20 years	\$260,553	\$56,330	\$22,397		\$78,726
BUILDING EXTERIOR (cont.)	2 to 45 years	0 to 31 years	\$197,434	\$61,644	\$20,747	\$10,184	\$72,206

### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING REPORT

TABLE CM4 below details the allocation of the \$75,000 Beginning Balance, as reported by the Association and the \$260,935 of Replacement Reserve Funding calculated by the Cash Flow Method from 2016 to 2018, to the 73 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made by Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and outlined on Page CF1. The accuracy of the allocations is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$75,000 on January 1, 2016.
- Replacement Reserves on Deposit totaling \$166,643 on January 1, 2017.
- Replacement Reserves on Deposit totaling \$220,362 on January 1, 2018.
- Total Replacement Reserve funding (including the Beginning Balance) of \$335,935 from 2016 to 2018.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory from 2016 to 2018 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of \$48,107.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates, Inc., to arrange for an update of the Replacement Reserve Study.

#### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2016 Reserve Funding	2016 Projected Replacements	2016 End of Year Balance	2017 Reserve Funding	2017 Projected Replacements	2017 End of Year Balance	2018 Reserve Funding	2018 Projected Replacements	2018 End of Year Balance
SITE COMPONENT												
1	Concrete driveway (6%)	6,803	1,189	802		1,991	802		2,793	802		3,595
2	Concrete driveway (6%)	6,803	1,054	442		1,496	442		1,939	442		2,381
3	Concrete driveway (6%)	6,803	920	310		1,229	310		1,539	310		1,849
4	Concrete driveway (6%)	6,803	785	241		1,026	241		1,266	241		1,507
5	Concrete driveway (6%)	6,803	650	198		849	198		1,047	198		1,246
6	Concrete driveway (6%)	6,803	516	170		686	170		856	170		1,026
7	Concrete driveway (6%)	6,803	381	149		531	149		680	149		829
8	Concrete driveway (6%)	6,803	247	134		381	134		514	134		648
9	Concrete driveway (6%)	6,803	112	122		234	122		355	122		477
10	Concrete driveway (6%)	6,803		112		112	112		223	112		335
11	Concrete leadwalk (6%)	1,641	287	193		480	193		673	193		867
12	Concrete leadwalk (6%)	1,641	254	107		361	107		467	107		574
13	Concrete leadwalk (6%)	1,641	222	75		296	75		371	75		446
14	Concrete leadwalk (6%)	1,641	189	58		247	58		305	58		363
15	Concrete leadwalk (6%)	1,641	157	48		205	48		253	48		300
16	Concrete leadwalk (6%)	1,641	124	41		165	41		206	41		247
17	Concrete leadwalk (6%)	1,641	92	36		128	36		164	36		200
18	Concrete leadwalk (6%)	1,641	59	32		92	32		124	32		156
19	Concrete leadwalk (6%)	1,641	27	29		56	29		86	29		115
20	Concrete leadwalk (6%)	1,641		27		27	27		54	27		81
SITE COMPONENT (cont.)												
21	Concrete patio & stoop/step (6%)	5,580	975	658		1,633	658		2,291	658		2,949
22	Concrete patio & stoop/step (6%)	5,580	865	363		1,227	363		1,590	363		1,953
23	Concrete patio & stoop/step (6%)	5,580	754	254		1,008	254		1,262	254		1,516
24	Concrete patio & stoop/step (6%)	5,580	644	197		841	197		1,039	197		1,236
25	Concrete patio & stoop/step (6%)	5,580	533	163		696	163		859	163		1,022
26	Concrete patio & stoop/step (6%)	5,580	423	139		562	139		702	139		841
27	Concrete patio & stoop/step (6%)	5,580	313	122		435	122		558	122		680
28	Concrete patio & stoop/step (6%)	5,580	202	110		312	110		422	110		532
29	Concrete patio & stoop/step (6%)	5,580	92	100		192	100		292	100		391
30	Concrete patio & stoop/step (6%)	5,580		91		91	91		183	91		274
31	Fence (alu)	9,920	785	508		1,292	508		1,800	508		2,307
32	Fence (vinyl)	7,000	665	487		1,152	487		1,639	487		2,127
33	Irrigation allowance	2,400		600		600	600		1,200	600		1,800
BUILDING EXTERIOR												
34	Shingle asphalt/fiberglass Bldg 1	37,923	5,401	4,646		10,047	4,646		14,693	4,646		19,339
35	Shingle asphalt/fiberglass Bldg 2	37,923	5,101	4,103		9,204	4,103		13,307	4,103		17,409
36	Shingle asphalt/fiberglass Bldg 3	37,923	1,500	1,821		3,321	1,821		5,143	1,821		6,964
37	Shingle asphalt/fiberglass Bldg 4	37,923	3,901	2,835		6,736	2,835		9,571	2,835		12,406
38	Shingle asphalt/fiberglass Bldg 5	37,923		1,517		1,517	1,517		3,034	1,517		4,551
39	Shingle asphalt/fiberglass Bldg 6	37,923		1,517		1,517	1,517		3,034	1,517		4,551

COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4 cont'd												
Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2016 Reserve Funding	2016 Projected Replacements	2016 End of Year Balance	2017 Reserve Funding	2017 Projected Replacements	2017 End of Year Balance	2018 Reserve Funding	2018 Projected Replacements	2018 End of Year Balance
40	Shingle asphalt/fiberglass Bldg 7	37,923	6,901	15,511		22,412	15,511	(37,923)		1,517		1,517
41	Shingle asphalt/fiberglass Bldg 8	37,923	3,601	2,640		6,241	2,640		8,881	2,640		11,521
42	Gutter & downspout, 5" aluminum (25	9,528	942	572		1,515	572		2,087	572		2,659
43	Gutter & downspout, 5" aluminum (25	9,528	880	541		1,420	541		1,961	541		2,501
44	Gutter & downspout, 5" aluminum (25	9,528	817	512		1,329	512		1,842	512		2,354
45	Gutter & downspout, 5" aluminum (25	9,528	754	487		1,241	487		1,729	487		2,216
46	Siding & trim (10% w/ painting)	27,037		4,506		4,506	4,506		9,012	4,506		13,519
47	Shutters (20% w/painting)	1,032		172		172	172		344	172		516
BUILDING EXTERIOR (cont'd)												
48	Painting	86,655		14,443		14,443	14,443		28,885	14,443		43,328
49	Masonry, repointing 10%	21,698		1,276		1,276	1,276		2,553	1,276		3,829
50	Caulking allowance w/painting	1,000		167		167	167		333	167		500
51	Window, opening (25%)	37,800	3,204	1,730		4,934	1,730		6,664	1,730		8,394
52	Window, opening (25%)	37,800	2,991	1,658		4,648	1,658		6,306	1,658		7,964
53	Window, opening (25%)	37,800	2,777	1,592		4,369	1,592		5,961	1,592		7,553
54	Window, opening (25%)	37,800	2,564	1,532		4,096	1,532		5,628	1,532		7,160
BUILDING EXTERIOR (cont.)												
55	Entry door (25%)	10,400	1,234	917		2,151	917		3,067	917		3,984
56	Entry door (25%)	10,400	1,152	841		1,993	841		2,833	841		3,674
57	Entry door (25%)	10,400	1,070	778		1,847	778		2,625	778		3,402
58	Entry door (25%)	10,400	987	724		1,711	724		2,436	724		3,160
59	Sliding door, glass (25%)	5,400	801	920		1,721	920		2,641	920		3,560
60	Sliding door, glass (25%)	5,400	748	775		1,523	775		2,298	775		3,074
61	Sliding door, glass (25%)	5,400	694	672		1,367	672		2,039	672		2,711
62	Sliding door, glass (25%)	5,400	641	595		1,236	595		1,831	595		2,426
63	Columns, Front	7,200	855	635		1,489	635		2,124	635		2,758
64	Columns, Front	7,200	798	582		1,380	582		1,962	582		2,544
65	Columns, Front	7,200	741	538		1,279	538		1,817	538		2,355
66	Columns, Front	7,200	684	501		1,185	501		1,686	501		2,187
67	Balcony deck replace incl membrane (	10,184		3,395		3,395	3,395		6,789	3,395	(10,184)	
68	Balcony railing	19,250	2,094	1,906		4,000	1,906		5,907	1,906		7,813
69	Metal railing, front entrance	4,320	209	121		330	121		451	121		572
70	Garage door, residential (25%)	17,920	2,127	1,974		4,101	1,974		6,075	1,974		8,049
71	Garage door, residential (25%)	17,920	1,950	1,774		3,724	1,774		5,499	1,774		7,273
72	Garage door, residential (25%)	17,920	1,772	1,615		3,387	1,615		5,002	1,615		6,617
73	Garage door, residential (25%)	17,920	1,595	1,484		3,079	1,484		4,563	1,484		6,047

## 1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 40 years, the responsibility for community facilities and infrastructure around many of our homes has shifted from the local government to Community Associations. Thirty years ago, a typical new town house abutted a public street on the front and a public alley on the rear. Open space was provided by a nearby public park and recreational facilities were purchased ala carte from privately owned country clubs, swim clubs, tennis clubs, and gymnasiums. Today, 60% of all new residential construction, i.e. townhouses, single-family homes, condominiums, and cooperatives, is in Common Interest Developments (CID). In a CID, a homeowner is bound to a Community Association that owns, maintains, and is responsible for periodic replacements of various components that may include the roads, curbs, sidewalks, playgrounds, streetlights, recreational facilities, and other community facilities and infrastructure.

The growth of Community Associations has been explosive. In 1965, there were only 500 Community Associations in the United States. According to the 1990 U.S. Census, there were 130,000 Community Associations. Community Associations Institute (CAI), a national trade association, estimates there were more than 200,000 Community Associations in the year 2000, and that the number of Community Associations will continue to multiply.

The shift of responsibility for billions of dollars of community facilities and infrastructure from the local government and private sector to Community Associations has generated new and unanticipated problems. Although Community Associations have succeeded in solving many short-term problems, many Associations have failed to properly plan for the tremendous expenses of replacing community facilities and infrastructure components. When inadequate replacement reserve funding results in less than timely replacements of failing components, home owners are exposed to the burden of special assessments, major increases in Association fees, and a decline in property values.

## 2. REPLACEMENT RESERVE STUDY

The purpose of a Replacement Reserve Study is to provide the Association with an inventory of the common community facilities and infrastructure components that require periodic replacement, a general view of the condition of these components, and an effective financial plan to fund projected periodic replacements. The Replacement Reserve Study consists of the following:

- Replacement Reserve Study Introduction. The introduction provides a description of the property, reviews the intent of the Replacement Reserve Study, and lists documents and site evaluations upon which the Replacement Reserve Study is based.
- Section A Replacement Reserve Analysis. Many components owned by the Association have a limited life and require periodic replacement. Therefore, it is essential the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, a Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by two generally accepted accounting methods; the Cash Flow Method and the Component Method. Miller - Dodson provides a replacement reserve recommendation based on the Cash Flow Method in Section A, and the Component Method in the Appendix of the report.
- Section B Replacement Reserve Inventory. The Replacement Reserve Inventory lists the commonly owned components within the community that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about components excluded from the Replacement Reserve Inventory whose replacement is not scheduled for funding from Replacement Reserves.

Replacement Reserve Inventory includes estimates of the normal economic life and the remaining economic life for those components whose replacement is scheduled for funding from Replacement Reserves.

- Section C Projected Annual Replacements. The Calendar of Projected Annual Replacements provides a year-by-year listing of the Projected Replacements based on the data in the Replacement Reserve Inventory.
- Section D Condition Assessment. Several of the items listed in the Replacement Reserve Inventory are discussed in more detail. The Condition Assessment includes a narrative and photographs that document conditions at the property observed during our visual evaluation.
- The Appendix is provided as an attachment to the Replacement Reserve Study. Additional attachments may include supplemental photographs to document conditions at the property and additional information specific to the property cited in the Conditions Assessment (i.e. Consumer Product Safety Commission, Handbook for Public Playground Safety, information on segmental retaining walls, manufacturer recommendations for asphalt shingles or siding, etc). The Appendix also includes the Accounting Summary for the Cash Flow Method and the Component Method.

### 3. METHODS OF ANALYSIS

The Replacement Reserve industry generally recognizes two different methods of accounting for Replacement Reserve Analysis. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Minimum Annual Contribution to the Reserves. The results of both methods are presented in this report. The Association should obtain the advice of its accounting professional as to which method is more appropriate for the Association. The two methods are:

- **Cash Flow Method.** The Cash Flow Method is sometimes referred to as the "Pooling Method." It calculates the minimum constant annual contribution to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the specified minimum level in any year.

First, the Minimum Recommended Reserve Level to be Held on Account is determined based on the age, condition, and replacement cost of the individual components. The mathematical model then allocates the estimated replacement costs to the future years in which they are projected to occur. Based on these expenditures, it then calculates the minimum constant yearly contribution (Minimum Annual Deposit) to the reserves necessary to keep the reserve balance at the end of each year above the Minimum Recommended Reserve Level to be Held on Account. The Cash Flow Analysis assumes that the Association will have authority to use all of the reserves on hand for replacements as the need occurs. This method usually results in a Minimum Annual Deposit that is less than that arrived at by the Component Method.

- **Component Method.** This method is a time tested mathematical model developed by HUD in the early 1980s, but has been generally relegated to a few States that require it by law. For the vast majority of Miller - Dodson's clients, this method is not used.

The Component Method treats each item in the replacement schedule as an individual line item budget. Generally, the Minimum Annual Contribution to Reserves is higher when calculated by the Component Method. The mathematical model for this method works as follows:

First, the total Current Objective is calculated, which is the reserve amount that would have accumulated had all of the items on the schedule been funded from initial construction at their current replacement costs. Next, the Reserves Currently on Deposit (as reported by the Association) are distributed to the components in the schedule in proportion to the Current Objective. The Minimum Annual Deposit for each component is equal to the Estimated Replacement Cost, minus the Reserves on Hand, divided by the years of life remaining.

### 4. REPLACEMENT RESERVE STUDY DATA

- **Identification of Reserve Components.** The Reserve Analyst has only two methods of identifying Reserve Components: (1) information provided by the Association and (2) observations made at the site. It is important that the Reserve Analyst be provided with all available information detailing the components owned by the Association. It is our policy to request such information prior to bidding on a project and to meet with the individuals responsible for maintaining the community after acceptance of our proposal. After completion of the Study, the Study should be reviewed by the Board of Directors, individuals responsible for maintaining the community, and the Association's accounting professionals. We are dependent upon the Association for correct information, documentation, and drawings.
- **Unit Costs.** Unit costs are developed using nationally published standards and estimating guides and are adjusted by state or region. In some instances, recent data received in the course of our work is used to modify these figures.

Contractor proposals or actual cost experience may be available as part of the Association records. This is useful information, which should be incorporated into your report. Please bring any such available data to our attention, preferably before the report is commenced.

- **Replacement vs. Repair and Maintenance.** A Replacement Reserve Study addresses the required funding for Capital Replacement Expenditures. This should not be confused with operational costs or cost of repairs or maintenance.



## 5. DEFINITIONS

**Adjusted Cash Flow Analysis.** Cash flow analysis adjusted to take into account annual cost increases due to inflation and interest earned on invested reserves. In this method, the annual contribution is assumed to grow annually at the inflation rate.

**Annual Deposit if Reserves Were Fully Funded.** Shown on the Summary Sheet A1 in the Component Method summary, this would be the amount of the Annual Deposit needed if the Reserves Currently on Deposit were equal to the Total Current Objective.

**Cash Flow Analysis.** See Cash Flow Method, above.

**Component Analysis.** See Component Method, above.

**Contingency.** An allowance for unexpected requirements. Roughly the same as the Minimum Recommended Reserve Level to be Held on Account used in the Cash Flow Method of analysis.

**Critical Year.** In the Cash Flow Method, a year in which the reserves on hand are projected to fall to the established minimum level. See Minimum Recommended Reserve Level to be Held on Account.

**Current Objective.** This is the reserve amount that would have accumulated had the item been funded from initial construction at its current replacement cost. It is equal to the estimated replacement cost divided by the estimated economic life, times the number of years expended (the difference between the Estimated Economic Life and the Estimated Life Left). The Total Current Objective can be thought of as the amount of reserves the Association should now have on hand based on the sum of all of the Current Objectives.

**Cyclic Replacement Item.** A component item that typically begins to fail after an initial period (Estimated Initial Replacement), but which will be replaced in increments over a number of years (the Estimated Replacement Cycle). The Reserve Analysis program divides the number of years in the Estimated Replacement Cycle into five equal increments. It then allocates the Estimated Replacement Cost equally over those five increments. (As distinguished from Normal Replacement Items, see below)

**Estimated Economic Life.** Used in the Normal Replacement Schedules. This represents the industry average number of years that a new item should be expected to last until it has to be replaced. This figure is sometimes modified by climate, region, or original construction conditions.

**Estimated Economic Life Left.** Used in the Normal Replacement Schedules. Number of years until the item is expected to need replacement. Normally, this number would be considered to be the difference between the Estimated Economic Life and the age of the item. However, this number must be modified to reflect maintenance practice, climate, original construction and quality, or other conditions. For the purpose of this report, this number is determined by the Reserve Analyst based on the present condition of the item relative to the actual age.

**Estimated Initial Replacement.** For a Cyclic Replacement Item (see above), the number of years until the replacement cycle is expected to begin.

**Estimated Replacement Cycle.** For a Cyclic Replacement Item, the number of years over which the remainder of the component's replacement occurs.

**Minimum Annual Deposit.** Shown on the Summary Sheet A1. The calculated requirement for annual contribution to reserves as calculated by the Cash Flow Method (see above).

**Minimum Deposit in the Study Year.** Shown on the Summary Sheet A1. The calculated requirement for contribution to reserves in the study year as calculated by the Component Method (see above).

**Minimum Recommended Reserve Level to be Held on Account.** Shown on the Summary Sheet A1, this number is used in the Cash Flow Method only. This is the prescribed level below which the reserves will not be allowed to fall in any year. This amount is determined based on the age, condition, and replacement cost of the individual components. This number is normally given as a percentage of the total Estimated Replacement Cost of all reserve components.

**Normal Replacement Item.** A component of the property that, after an expected economic life, is replaced in its entirety. (As distinguished from Cyclic Replacement Items, see above.)

Normal Replacement Schedules. The list of Normal Replacement Items by category or location. These items appear on pages designated.

Number of Years of the Study. The numbers of years into the future for which expenditures are projected and reserve levels calculated. This number should be large enough to include the projected replacement of every item on the schedule, at least once. This study covers a 40-year period.

One Time Deposit Required to Fully Fund Reserves. Shown on the Summary Sheet A1 in the Component Method summary, this is the difference between the Total Current Objective and the Reserves Currently on Deposit.

Reserves Currently on Deposit. Shown on the Summary Sheet A1, this is the amount of accumulated reserves as reported by the Association in the current year.

Reserves on Hand. Shown in the Cyclic Replacement and Normal Replacement Schedules, this is the amount of reserves allocated to each component item in the Cyclic or Normal Replacement schedules. This figure is based on the ratio of Reserves Currently on Deposit divided by the total Current Objective.

Replacement Reserve Study. An analysis of all of the components of the common property of the Association for which a need for replacement should be anticipated within the economic life of the property as a whole. The analysis involves estimation for each component of its estimated Replacement Cost, Estimated Economic Life, and Estimated Life Left. The objective of the study is to calculate a recommended annual contribution to the Association's Replacement Reserve Fund.

Total Replacement Cost. Shown on the Summary Sheet A1, this is total of the Estimated Replacement Costs for all items on the schedule if they were to be replaced once.

Unit Replacement Cost. Estimated replacement cost for a single unit of a given item on the schedule.

Unit (of Measure). Non-standard abbreviations are defined on the page of the Replacement Reserve Inventory where the item appears. The following standard abbreviations are used in this report:

EA: each    FT: feet    LS: lump sum    PR: pair    SF: square feet    SY: square yard

What is a Reserve Study?  
Who are we?



<http://bcove.me/nc0o69t7>

What kind of property uses a Reserve Study?  
Who are our clients?



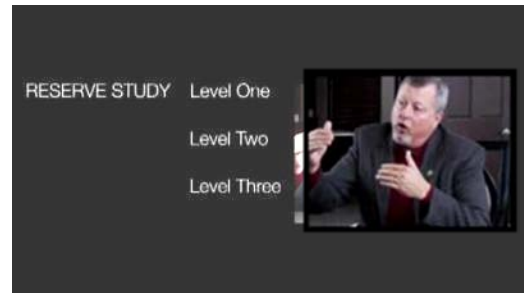
<http://bcove.me/stt373hj>

Who conducts a Reserve Study?  
Reserve Specialist (RS) what does this mean?



<http://bcove.me/81ch7kit>

When should a Reserve Study be updated?  
What are the different types of Reserve Studies?



<http://bcove.me/ixis1yxm>

What is in a Reserve Study and what is out?  
Improvement vs Component, is there a difference?



<http://bcove.me/81ch7kit>

What is my role as a Community Manager?  
Will the report help me explain Reserves to my



<http://bcove.me/fazwdk3h>

clients?

What is my role as a Board Member?  
Will a Reserve Study meet my community's needs?



<http://bcove.me/n6nwnktv>

Community dues, how can a Reserve Study help?  
Will a study help keep my property competitive?



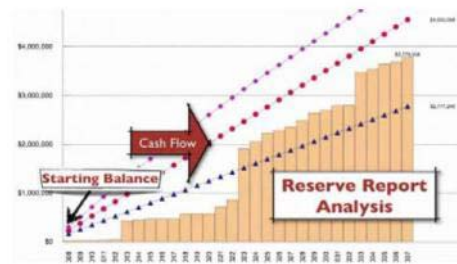
<http://bcove.me/2vfih1tz>

How do I read the report?  
Will I have a say in what the report contains?



<http://bcove.me/wb2fugb1>

Where do the numbers come from?  
Cumulative expenditures and funding, what?



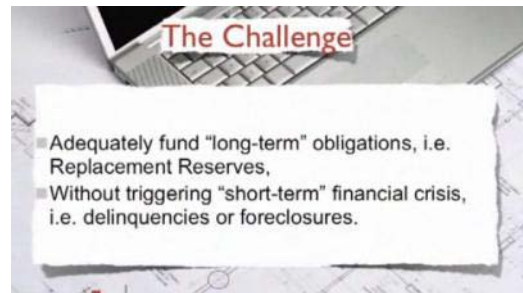
<http://bcove.me/7buer3n8>

How are interest and inflation addressed?  
What should we look at when considering inflation?



<http://bcove.me/s2tmtj9b>

A community needs more help, where do we go?  
What is a Strategic Funding Plan?



<http://bcove.me/iqul31vq>